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**REPORT TO CONGRESS**

**ON**

**THE INDIAN HEALTH SERVICE**

**WITH REGARD TO**

**HEALTH STATUS AND HEALTH CARE NEEDS**  
**OF AMERICAN INDIANS IN CALIFORNIA**

**IN RESPONSE TO**

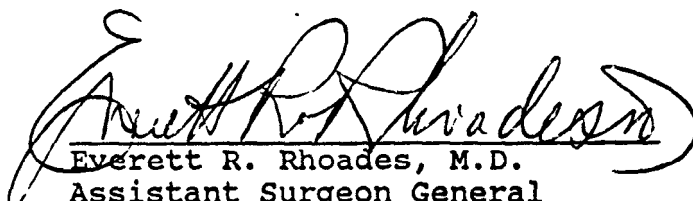
**PUBLIC LAW 100-713 (SECTION 709)**

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A REPORT ON THE HEALTH STATUS AND HEALTH CARE NEEDS  
OF AMERICAN INDIANS IN CALIFORNIA

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## EXECUTIVE SUMMARY

### Introduction

This report was prepared in response to Section 709 of the Indian Health Care Amendments of 1988 (Public Law (P.L.) **100-713**). The Section mandated a report to document the number, location, tribal membership, health status, and access to health care of the following two classes of California Indians made eligible for IHS services by Section 709(b) of the Indian Health Care Improvement Act:

-any descendant of an Indian who was residing in California on June 1, 1852, but only if such descendant--

(A) is living in California,

(B) is a member of the Indian community served by a local program of the Service, and

(C) is regarded as an Indian by the community in which such descendant lives:

-any Indian who holds trust interests in public domain, national forest, or Indian reservation allotments in California.

These two classes of eligible Indians will be referred to as **"non-federally recognized California Indians"** in this Report.

The investigation resulting in this report was a collaborative effort that involved the Indian **Health Service** (IHS); the California Tribal Health Programs and the California Rural Indian Health Board; the Bureau of Indian Affairs; the State of California Department of Health Services; the State of California Office of Statewide Health Planning and Development; the Institute for Health Policy Studies, School of Medicine, University of California, San Francisco; and the School of Public Health, University of California, Berkeley.

The major purpose of the investigation was to assess the health status and health care needs of non-federally recognized California Indians. The most salient finding in the report addresses this issue. Based on a variety of important measures, it appears the health status of non-federally recognized California Indians is no better, and by some measures more compromised, than that of federally recognized California Indians. Access to California Tribal Health Programs and Clinics is essential for non-federally recognized California Indians, **many of whom have limited access to alternate sources of health care.**

The Executive Summary will describe briefly the way the investigation was done and give highlights of the results. Readers are encouraged to read and use the full report where these highlights and many more findings are presented in detail.

### How Was the **Investigation** Done?

In consultation with a Tribal Advisory Committee and the California Department of Health Services, the IHS developed a two-part strategy for the investigation. Existing sources of secondary data in California were used to assess the health status and health care needs of California Indians, and to estimate the number of Indians living in California.. Because these **datasets** do not distinguish federally recognized from **non-federally recognized** California Indians, inferential measures were used to assess the health status and health needs of these two groups. This part of the investigation was accomplished through a contract with the Institute for Health Policy Studies, School of Medicine, University of California, San Francisco.

In addition, the California Tribal Health Programs provided information about individual California Indians' access to health care services. Information was obtained to determine current sources of health care, resources for payment of health care, and 'the availability and accessibility of alternatives outside' of care supported by IHS. The Indians contacted consisted of a random sample of California Indians who were coded as **non-federally recognized** in the IHS patient registration files. This part of the investigation was accomplished with the invaluable assistance of the California Department of Health Services..

### Key Findings

Many important pieces of information about the health status, health care needs, and access to care of California Indians are presented in the 91 tables and 48 charts in this report. This information is compiled in this way for the first time and is designed for use especially by the IHS, California Tribal Health Programs, and the California Department of Health Services. Five of the most notable findings are discussed here.

**1.** By *many* measures, the health status of California Indians is very similar to that of American Indians and Alaska Natives in the 32 other reservation states.

- o American Indians and Alaska Natives in the United States (U.S.) are much more likely to- die prematurely than persons in the general U.S. population (Table 24). In a disturbingly similar way, deaths occur to California Indians at much younger ages compared with the total California population (Table 24 and-Charts 34-37). For example, in 1986-88 Indian deaths were more than twice as **likely as**

deaths Statewide to occur before the age of 45 years (28% vs. **13%**), or before the age of 25 years (11% vs. 5%). During this time period, Indian men were particularly likely to die before the age of 45 years (33% vs. 18% for all races).

- o The 10 leading causes of death for American Indians in California in 1986-88 were the same as the causes for American Indians in the U.S. Within California, a greater proportion of Indian deaths compared with total deaths was caused by accidents, chronic liver disease and cirrhosis, homicide, and suicide. (Tables 27-29)
- o The proportion of deaths because of injury is much higher for American Indians and Alaska Natives in the U.S. (16%) and for California Indians (13%) than for the total population in California (5%) (Tables 27-29). For California Indian boys and men, injury deaths are particularly prominent (16% of all male deaths). Motor vehicle deaths alone accounted for 9% of all deaths to California Indian males in 1986-88.
- o In 1988, only 12% of the California Indian and U.S. American Indian and Alaska Native hospital discharges were to persons aged 65 and over, compared to 27% of all California hospital discharges (Table 49).

2. The maternal and child health risk profile for California Indians presents a troubling picture that demands public health action.

- o Several very important risk factors for adverse outcomes for mothers and babies are disproportionately high for California Indian women (Tables 7 and 13 and Charts 5 and 17). For example, in 1986-88 17% of California Indian live births were to women under the age of 20; and 8% of California Indian live births had late (third trimester) or no prenatal care. These risk factors are-especially prominent in counties with primarily non-federally recognized Indians.
- o Although mothers of Indian children compared to all mothers in California were less likely to be uninsured (6% vs. **13%**), they were much more likely to rely on Medi-Cal (46% vs. 28%) and much less likely to have private insurance coverage (40% vs. 53%) (Table 18 and Chart 25). Geographic availability of Medi-Cal providers and delays in Medi-Cal eligibility determination must be examined for Indian women in California.



- While the infant mortality rate for California Indian births in 1984-86 (10.3 deaths per 1,000 live births) was only slightly higher than the Statewide **rate. (9.3)**, the postneonatal death rate for California Indians was alarmingly high (5.1 for Indians vs. 3.4 for the total population) (Table 21 and Chart 30). Aggressive efforts are needed to prevent injuries, treat medical conditions, and support mothers and infants throughout the first year of life and beyond.

3. Tobacco and alcohol use are having a devastating impact on the health of California Indians.

- In 1986-88, 42% of deaths among California Indian women and 37% of deaths among California Indian men were attributable to smoking (Table 25). These proportions contrast sharply with those for women and men in the total California population (12% and **18%**, respectively).
- During the same time period, 34% of deaths to California Indian women and 42% of deaths to California Indian men were alcohol-related (Table 26). The contrast with deaths for all races in California is stark; the comparable proportions for the total population were 4% for women and 8% for men..

4. For non-federally recognized California Indians, there are substantial limitations on access to health care services **outside** the California Tribal Health Programs.

- Non-federally recognized California Indians are poorly insured. One-third of those Indians sampled by the Tribal Health Programs in 1991 reported no health insurance coverage at all, and only 24% reported coverage by private health insurance (Table 88).
- Of those non-federally recognized California Indians who had a usual source of care, 60% identified a Tribal Health Program (Table 89). Alternate sources of care reported by respondents were primarily public programs such as emergency rooms and county health clinics, while 7% of respondents said they did not know what alternate source of care they could use.
- **When** choosing health care, non-federally recognized California Indians place very high value on cultural sensitivity. Among the most important features these Indians seek in health care staff are treatment with respect and kindness, and understanding of American Indian ways (Table 91).

- In California counties where Indians are primarily **non-federally** recognized, three of the leading causes of hospitalization for Indians in 1988 were not among the leading causes for the total population in those counties, nor for Indians Statewide (Table 66). These causes were disorders relating to short gestation and birthweight, **cellulitis/abscess**, and acute bronchitis. Hospitalizations resulting from these causes probably relate to problems with prenatal care access, substance abuse and/or diabetes, and lack of preventive outpatient care, respectively. Access to a wide range of health care services will be needed to begin to combat these problems.

5. The health status of non-federally **recognized** California Indians is no better (**and** is in some ways more compromised) than that of federally recognized California Indians.

- Important risk factors for adverse outcomes for mothers and babies are even more prominent for Indian women in California counties where Indians are primarily **non-federally** recognized or in counties without access to IHS contract clinics. For example, in 1986-88 21% of Indian births in non-federally recognized counties were to women under age 20, compared to 17% of Indian births throughout the State (Table 7 and Chart 5). An extremely high percentage (14%) of Indian births in the counties without access to an IHS contract clinic had delayed prenatal care, compared with 8% of Indian births Statewide (Tables 13 and 15).
- The youthfulness of hospitalized Indians is especially striking for residents in California counties where Indians are primarily non-federally recognized (Table 50). For example, among Indian residents in these counties, 41% of hospital discharges in 1988 were under age 15, 57% were under age 25, and only 10% were age 65 and over. Over half (51%) of hospitalizations for Indian males in those counties were for boys under age 15.
- In 1986-88, deaths to Indians in California counties where Indians are primarily non-federally recognized were more likely to be because of heart disease and injuries than were deaths to Indians Statewide. In the former counties, nearly one-quarter (23%) of deaths to Indian boys and men were caused by injury.
- One-third of non-federally recognized California Indians reported at least one unmet health care need during 1990 (Table 90). The most frequently mentioned need was dental care (22%), followed by need for supplies (19%), such as diabetic supplies, and prescription medications (18%).

## Conclusions

Evidence presented in this report suggests strongly that **there** are many unmet health care needs for both non-federally recognized and federally recognized California Indians. Health risks for Indian mothers and babies, disease and death caused by tobacco and alcohol use, and the disproportionate occurrence of preventable health problems all deserve aggressive public health action. At the current time, the health status of non-federally recognized California Indians appears to be no better than that of federally recognized California Indians. Since California Tribal Health Programs are the primary source of health care for non-federally recognized California Indians and many of these Indians have very limited access to other sources of care, continued access to the Tribal Programs is essential to maintaining even the current level of health status for this group.

This study documents the need for further research to improve the quality of data on California's American Indian population, to assess their health status more accurately, and to evaluate the effectiveness and appropriateness of specific interventions and modes of health care service delivery. Additional research on the availability, accessibility, and acceptability of alternative resources is also needed to assess the potential impact of IHS eligibility changes. Barriers to access must be evaluated in the context of current fiscal conditions and policy trends.

The current fiscal situation implies decreased availability of alternate resources for people **who depend** on services supported by the IHS. Various proposals are currently being fielded to create universal health coverage in California, but the timing and nature of future programs are uncertain. The immediate need to maintain coverage for non-federally recognized California Indians is urgent, but financial coverage alone will not ensure appropriate and acceptable care for the Indian population. Recent expansion of clinical services in California's **tribally-**operated programs has led to a higher level of utilization, indicating both unmet need and a desire to obtain services in an Indian-specific environment.

## INTRODUCTION

### Purpose of Report

The purpose of this report is to provide the United States (U.S.) Congress with information on the number, location, tribal membership, health status, health care needs, and availability and accessibility of alternate resources for the following two classes of California Indians made eligible for IHS services by Section 709 of the Indian Health Care Improvement Act:

-any descendant of an Indian who was residing in California on June 1, 1852, but only if such descendant--.

(A) is living in California,

(B) is a member of the Indian community served by a local program of the Service, and

(C) is regarded as an Indian by the community in which such descendant lives;

-any Indian who holds trust interests in public domain, national forest, or Indian reservation **allotments** in California.

These two classes of eligible Indians will be referred to as "**non-federally** recognized California Indians" in this Report.

The Indian Health Care Amendments of 1988, Public Law (P.L.) 100-713, codified the existing practice of providing the Indian Health Service (IHS) services to non-federally recognized California Indians who might otherwise be ineligible for such services. The same legislation mandated a report documenting the number, location, tribal membership, health status, and health care needs of such persons and assessing the alternate health **care** resources that would be available to them if the extended coverage were discontinued. This report was prepared to fulfill that mandate under the guidance of California Area IHS staff and a California Tribal Advisory Committee.

### Background

The U.S. Supreme Court has interpreted the basis of governmental programs serving American Indians to be historical treaty relationships between the Federal Government and particular Indian tribes, rather than a categorical entitlement to individuals based on race. Thus, eligibility for services provided by the IHS has traditionally been targeted, though not entirely restricted, to members of federally recognized tribes. Federal recognition is the standard criterion for receipt of most government benefits, but other criteria for health benefits have

been established out of equity considerations because of the arbitrary and changing nature of Federal recognition. In California, the status of tribes has undergone drastic changes over time because of Federal Indian policy. Enrollment patterns within tribes also vary significantly because of differences in tribal membership requirements.

The IHS does not provide direct services in California. Health services in California are provided by tribally-operated health programs funded by IHS. The only IHS hospital within California's boundaries is administered by the Phoenix Area to serve the Quechan Tribe along the Colorado River. The 38 counties which make up the-California Service Area **have** been designated as a contract health service delivery area (CHSDA). Within that CHSDA, 22 tribally-administered programs facilitated by the Indian Self Determination Act (P.L. 93-638) provide health care services. These programs are **referred** to in this report as IHS contract clinics.

Eligibility requirements for contract care have traditionally been more stringent than those for direct services. IHS regulations published in September 1987, expanded eligibility in some cases and would have made requirements more uniform for direct and contract care. This would have drastically changed 'eligibility practice in California. However, the stipulation **was** added that recipients of both direct and contract services must be members of federally recognized tribes. Subsequently, P.L. **100-713** (Section 709) made the following provisions specific to California Indians:

"(b) Until such time as any subsequent law may otherwise provide, the following California Indians shall be eligible for health services provided by the Service:

"(1) Any member of a federally recognized Indian tribe.

"(2) Any descendant of an Indian who was residing in California on June 1, 1852, but only if such descendant--

"(A) is living in California,

"(B) is a member of the Indian community served by a local program of the Service, and

"(C) is regarded as an Indian by the community in which such descendant lives.

"(3) Any Indian who holds trust interests in public domain, national forest, or Indian reservation allotments in California."

The focus of this report was on those persons described in (b)(2) **and** (b)(3), i.e., those California **Indians** currently eligible for IHS services although they are not members of federally recognized tribes. An impact analysis of eligibility changes conducted by IHS in 1989, estimated that 6,959 current California IHS registrants were not federally recognized but 90 percent of those would retain eligibility under P.L. **100-713**.<sup>46</sup> The 'study

assumed that one-third of all those who were not enrolled in federally recognized tribes were actually eligible and would become enrolled within a designated 6 month transition period if they were threatened with losing eligibility. Limitations of the data from the IHS patient registration system did not permit further testing of these estimates and assumptions or comparisons of health status or utilization based on eligibility criteria.

Little is known about the health effects of tribal status or eligibility for the IHS. In 1969, the Final Report of the State Advisory Commission on Indian Affairs reported to California's governor and legislature that "**Since** 1955, when the federal Indian health program was terminated in the state, the health of California Indians has deteriorated in communicable diseases, as well as in chronic **diseases**." A recent study suggests potential consequences resulting from the dual loss of Federal recognition and health **services**.<sup>31</sup> In 1954, the Klamath Tribe in Oregon lost their federally recognized status and associated health, education, and welfare benefits. Over 30 years later, in 1985, approximately 200 tribal members aged 40 years and over were surveyed about their health status, health care needs, and health care utilization. The Klamath findings were compared with a national sample of Indian elders and a sample of non-Indian elders. This generation of terminated Klamaths suffered from high unemployment and social isolation. They were more likely to lack health insurance coverage and to have unmet needs for health care than the comparison groups. Even though they were a younger group than the national Indian sample, their health problems were similar: and their health status compared poorly with non-Indians aged 65 and over.

## METHODS

### scone

Data sources on California Indians have generally been considered inadequate for analysis by IHS, and many previous reports on Indian health have excluded California for that reason. While allowing for limitations and problems with data quality, this report sought to utilize fully the existing sources of secondary data in the State of California. Because so little is known about the health status and health care utilization of California Indians, the goal of the report was to provide descriptive information about all Indians living in California as well as Indians of California (i.e., "**all** Indians who were residing in the State of California on June 1, 1852, and their descendants now living in said State"). Whenever possible, the report includes all persons identified as American Indian or Alaska Native (Eskimo or Aleut), though the text generally refers to the total group as "**Indians**" or "American Indians." For the sake of clarity, the racial/ethnic terms most consistently found in the data sources are used with the understanding that other terms are sometimes preferred by the persons to whom they refer and may be more accurate (e.g., Native American rather than Indian, **Latina/Latino** rather than Hispanic, and African-American or **Afro-American** rather than Black).

While addressing the concerns of P.L. 100-713, the report suggests further steps are needed to monitor the health status and health care needs of American Indians in California. The need for ongoing surveillance exists in other geographic areas as **well**, and the proposed methods could be applied to other regions of the U.S. The report assesses issues of data quality and problems in racial/ethnic classification of data on American Indians. It summarizes available health status measures and indicators of health care utilization and effectiveness of services. It attempts to demonstrate the utility of such information and the implications for policy and program planning, and to suggest how these findings bear on the need for collection of new information.

### Secondary Data Sources

With the active cooperation of many agencies within the State of California Department of Health Services and other State programs, key health status measures were obtained from two **sources of** secondary data: vital statistics and hospital discharge records. California State birth certificates, linked birth and infant death records, death certificates, and hospitalization records were made available. An emphasis was placed on maternal and child health measures because of the availability of population-based data and the importance of perinatal outcomes in predicting the future health of a population.

Use of birth and death records allowed comparisons of health status measures of California Indians with the total State population, with other racial/ethnic groups in California, and with Indians and others throughout the U.S. Since there are no in-patient facilities in the IHS California Area, the Statewide hospital discharge database provided the only means of comparison with IHS hospitalizations elsewhere. Additional sources of secondary data included records maintained at IHS contract clinics, case reports on infectious diseases, client and financial information from Medi-Cal (California's Medicaid program), and program data from selected State and Federal health and welfare programs.

### **County Groupings**

Because county-specific data were available in the major data sources, geographic **comparisons** were made for relevant county groupings. The Tribal Advisory Committee to Study the Impact of California Indian Eligibility (P.L. 100-713) devised a system which classified counties according to (1) inclusion in IHS Service Area (Indian vs. non-Indian counties), (2) whether or not Indian residents were primarily members of federally recognized tribes, (3) whether counties were indisputably rural or indisputably urban, and (4) whether at least **80%, 50%-80%**, or none of the American Indian residents had access to an IHS contract clinic within 30 minutes driving distance. All of the groupings in categories (2), (3), and (4) are subsets of Indian counties except for the indisputably urban group, which contains both non-Indian and Indian counties. One Indian county on the California border, Alpine County, was not classified according to accessibility of IHS contract clinics because an unknown proportion of its Indian residents are served by a clinic operated by the Phoenix Area of the IHS. (See Appendix 1 for the names and affiliations of members of the Tribal Advisory Committee and Appendix 2 for listings of California counties in each of the above groupings.)

The definition of federally recognized vs. non-federally recognized counties was especially important in estimating the impact of eligibility regulations. Not all Indian residents of the counties classified as non-federally recognized are members of unrecognized tribes, but use of the county grouping provides an approximation of the **State's** non-federally recognized **population**. As of December 1990, the status of 25 California Indian tribes petitioning for Federal recognition remained unresolved (See Appendix 3). A low estimate of the total enrollment of those tribes was **7,771**. One tribe, the Death Valley Timbi-Sha Shoshone Band, recently succeeded in becoming recognized. The California Tribal Status **Act (H.R. 2144)**, re-introduced in the U.S. Congress by George Miller (D-Martinez) in April 1991, is a recent legislative effort to restore the status



of unrecognized tribes in California and to guarantee health, education, legal, and other benefits to their members.

#### Other Data Collection

Finally, a collaborative effort of the IHS, the State of California Indian Health Program, the California Rural Indian Health Board, and the California Tribal Health Programs allowed for additional data collection and analysis. Information on a selected sample of non-federally recognized Indians was collected by the Tribal Health Programs to determine current sources of health care, resources for payment of health care, and the availability and accessibility of alternatives other than care supported by the IHS. While preliminary in nature, this effort was the first attempt to collect information specifically on non-federally recognized California Indians in order to develop estimates of access to care and the prevalence of health needs among this segment of the IHS-eligible population in California.

### CHARACTERISTICS OF THE CALIFORNIA INDIAN POPULATION

#### Population Size and Distribution

Based on the preliminary 1990 Census figures released for California, Table 1 indicates an estimated California Indian population increase of 20.3% statewide from 1980 to 1990 (from 201,360 to 242,164). The 1990 estimate represents 0.8% of the total California population and 12.4% of the American Indian and Alaska Native population of the entire U.S. Growth was concentrated in the Indian counties, implying a potentially large increase in the service population for the IHS. The latest estimates calculated by IHS before the 1990 Census data became available projected a 30.5% increase in the California Area service population from 65,757 in 1980 to 85,818 in 1990.

According to Census figures, the increase appeared to be greater for residents of primarily non-recognized counties (54.0% vs. 35.9% increase for primarily federally recognized counties). Residents of non-federally recognized counties represented 8.5% (17,054) of all California Indians in 1980 and 10.8% (26,264) in 1990. Relatively little gain was recorded in the Indian population of the indisputably urban counties (7.4%), but a 36.8% increase was noted for Indians in the indisputably rural counties. A similar rate of growth occurred in counties in which IHS contract clinics are available within 30 minutes for at least 50% of the Indian population, but the increase in counties without accessible IHS contract clinics was nearly 50% (48.7%). These population figures suggest that members of non-federally recognized tribes compose a substantial and increasing proportion of the California Indian population, and that an increasing number of Indian persons may not be served by existing IHS contract clinics.

Table 2 presents parallel population figures for **American** Indians after excluding persons identified as Hispanic. The purpose of this table is to illustrate the extent to which Indian and Hispanic identities overlap in California, and to emphasize the importance of including all identifiable Indians when evaluating the California Indian population. In the 1990 Census, 58,099 persons in California identified as both American Indian/Alaska Native and Hispanic. Excluding self-reported Hispanics in 1990 would lead to an Indian population count of 184,065, an overall reduction of 24.0%. **With** Hispanics excluded, the proportion of the total state population represented by Indians drops from 0.8% to 0.6%. The greatest discrepancy in population figures, i.e., the highest percentage of American Indians identifying as Hispanic, appears to be in urban areas.

### Limitations of Census Data

Increases in American Indian population figures in the 1970 and 1980 Federal Census were thought by demographers to be much greater than the possible level of natural increase (births minus deaths).<sup>43,44</sup> **Several explanations** were offered, primarily an enhanced desire of persons to self-identify as Indian motivated by social and political changes. Additionally, accuracy was probably improved by new procedures used on reservations and by universal self-identification. Unlike previous years, all persons counted in the 1980 Census were given the opportunity to identify their own race/ethnicity as they chose. **Self-**identification is particularly important **for** Indian people; in one study of a nationally representative sample, 70% of survey respondents who identified **themselves** as American Indians were coded by interviewers as white or black and not identified as Indian.<sup>19</sup>

A lawsuit mounted by the State of California and several California cities, among other plaintiffs, **challenged** the 1990 Census figures cited above. As a result, the Census Bureau conducted a post-enumeration survey to assess the accuracy of the original count. According to that survey, 5.2 million U.S. residents and 1.1 million Californians were missed by the Census. In the U.S. as a whole, the undercount of American Indians was thought to be 5.0% overall (5.6% for males with a 2.2% margin of sampling error, and 4.4% for females with a 2.0% margin of error). In spite of these findings in the post-enumeration survey, the U.S. Department of Commerce announced on July 15, 1991, that no statistical adjustments would be made. Unless that decision is reversed by future legal actions, the figures stated in this report will remain the official Census counts. Commerce Secretary Robert Mosbacher stated that an adjustment of the **Census** undercount would "abandon a 200-year tradition of how we actually count people." That tradition, however, has been continually challenged as under-representing American Indians and other people of color.

Numerous aspects of Census methodology, in combination with certain characteristics of minority and low-income groups, contribute to potential undercount and error. Of all groups in the U.S. population, American Indians have been counted with the least **reliability**.<sup>3</sup> Some estimates of urban Indian undercounts are as high as 60%. Multiple factors influence the location and self-identification of Indians in California, where the majority of Indian people live in urban areas and not in large concentrations on reservation lands. A recent study of issues relating to the undercount of Bay Area Indians noted that Indian households were characterized by mobility between urban and rural/tribal areas, frequent moves within urban areas, fluidity in household composition, and residence in non-standard **housing**.<sup>35,36</sup> All of these characteristics increase the likelihood of being missed in the Census, either via mailed questionnaires or household visits. Urban Indian families tend to live dispersed among other groups, rather than clustered together in homogeneous neighborhoods. Thus the Census' assumption that an uncouned household will be similar in race/ethnicity to the previously counted household does not hold true for urban Indians.

Mistrust resulting from the historical relationship of Indian people to the Federal Government erects a barrier to participation in the Census process. Additional factors contributing to the undercount of California Indians are the prevalence of foster care and boarding school placements; institutionalization in medical, rehabilitative, and criminal justice facilities; homelessness; households and individuals of mixed ancestry; literacy deficits; and limited English language skills, especially among elders. Cultural insensitivity and misunderstanding of Indian norms of privacy lead to inappropriate design and misinterpretation of Census questionnaires. Confusion is compounded for persons of mixed ancestry,, and some persons responding to a request for information from the Federal Government might logically assume that Federal recognition is implied by the Census category of **"American Indian."** Numerous sources of confusion might lead to over-representation of Indians in the "Other-not specified" racial category, which was chosen by 9.8 million respondents in the 1990 Census.

Funds were not allocated for a 1991 supplementary Census survey of American Indians, yet many questions remain concerning the quality of Census data on Indians. Important areas for future research include social, demographic, and economic factors influencing the enumeration of American Indians; biases in **traditional** Census methodology that may influence the accuracy of Indian data; and methods of involving Indian leaders in improving the Census count. In the future, consultation from Indian community leaders and academic experts should result in culturally-specific modifications in the process of gathering, analyzing, and interpreting Census data. Meanwhile, adjusted

county-level data for American Indians based on the 1991 post-enumeration survey should be made available for research and planning purposes.

The Tribal Advisory Committee for this study advised caution in the use of Census data for the California Indian population. Not only is the quality of Census data questionable for the reasons discussed above, but inconsistencies in methodologies between the Census and other government data sources present additional problems. Most research relies upon Census figures for denominator data in calculating measures such as rates of mortality or hospitalization. However, these indicators may be seriously misleading because of inaccuracies and inconsistencies in the data. Our evaluation of data quality issues led to a decision not to calculate population-based rates in this study. The exception is infant mortality rates, with denominators based on numbers of live births recorded in vital statistics rather than Census records. For other outcomes, we applied different techniques and made recommendations for improving the collection and classification of data. Census data are reported as the best available estimates of population trends and indicators of social and economic characteristics of Indian people relative to the general population.

#### 'Social and Economic Characteristics

In general, the socioeconomic status of California Indians appears to be higher than that of Indians in the U.S. as a whole, but lower than that of the total population in California. Conditions in California seem to be more favorable both for Indians and for persons of all races compared to the U.S. overall, and the discrepancy between Indians and others is generally smaller in California. Nonetheless, the social and economic profile of California Indians raises concerns about health risks linked to poverty and demographic considerations. Eligibility for IHS benefits is not linked to income or other means testing, but socioeconomic characteristics are important indicators of need and should be taken into consideration in many aspects of health planning.

Information from the 1980 Census verifies that the American Indian population differs substantially from U.S. residents overall. The Indian population is younger. Families are larger, more likely to include children, and more likely to be maintained by a female householder. Educational attainment is considerably lower, and Indians are less likely to participate in the labor force. Those who do are less likely to be in professional and managerial occupations. Median income is lower, and Indian families have higher rates of poverty.

Table 3 and Chart 1 present 1980 Census data on age, family size, income, education, and employment for California Indians and persons of all races in California. The median age of California Indians was 25.8, compared to 30.0 for all races in California and the U.S and 22.6 for Indians in the 33 Reservation states. Indian families were larger than the average family in California, with mean family size of 3.5 for Indians compared to 3.2 for all races. This family size was actually somewhat smaller than that of the average family in the U.S. (3.8 persons), and considerably smaller than the average Indian family size nationwide (4.6 persons).

The median income of Indian families in California in 1979, was \$16,548, with a mean family income of \$19,621 and per capita income of \$6,030. These income figures were consistently lower than for the total California population, though higher than for Indians in all the Reservation states. About two-thirds (65.7%) of California Indians aged 25 and over completed four years of high school, approximately the same percentage as the U.S. average. However, only 9.8% completed four or more years of college, compared to 19.6% of the total California population. Labor force participation of California Indians; both men and women, was on a par with that of all races in California; and compared favorably with the participation of Indians and others in the U.S. However, rates of unemployment were much higher for Indians than for Californians of all races (11.8% vs. 6.5%). Unemployment was particularly high for Indian men, at 12.6%.

These economic and educational disadvantages, coupled with larger family size, would be expected to result in health risks for California's Indian population. More detailed comparative statistics from the 1980 Census are currently available on Indians' social and economic conditions, classified within the State by counties, census tracts, urban areas, Indian reservations, and other geographic divisions. It was beyond the scope of this study to analyze such data in greater detail. However, the comparable 1990 data can be used in the future to compare Indians living in primarily federally recognized counties and primarily non-federally recognized counties on measures relating to education, employment, occupation, housing, income, English language proficiency, family size and composition, nativity, citizenship, immigration, poverty status, and receipt of Social Security and public assistance. The social and economic conditions specific to non-federally recognized Indian people in California have never been systematically documented. Primary data collection on the quality of life of non-federally recognized Indians is essential for a true needs assessment of this population, but further utilization of existing Census data could fill important gaps and lay the groundwork for the design of primary data collection strategies.

## MATERNAL AND CHILD HEALTH

### **Background**

Maternal and child health outcomes provide general indicators of the health status and well-being of a population group, and help predict the health resources that will be needed for the coming generation. In addition, birth certificates provide a uniform source of information for the whole population. The live births in a given time period can be used as a reliable denominator for important measures of health status and health care utilization. Although the data quality is variable for particular items on birth certificates, and the potential exists for misclassification of race/ethnicity, information is more likely to be solicited from the families themselves and more likely to be verified than in many other data sources. The demographic data obtainable from birth certificates is also more current and more frequently updated than Census information. For these reasons, discussion of maternal and child health of American Indians is central to this report.

### **Definitions and Methods**

In part because of the tendency for American Indian statistics to be under-reported, an inclusive definition was used for Indian births. The criterion was that either or both parents be recorded as American Indian/Alaska Native on the birth certificate; Hispanics were not excluded. Any child so identified could potentially be eligible for IHS benefits, and could share the social and health risks that have been historically prevalent among American Indians. The sample was restricted to California residents (defined by mother's zip code), since the relevant eligibility issues pertain to State residents only. Utilization of prenatal care was studied among the mothers of these children, whether or not the woman herself was American Indian. Non-Indian spouses of eligible Indians are granted eligibility for health services at the discretion of individual tribes, according to P.L. 100-707. That law also states that the health needs of such persons "shall not be taken into consideration by the Service in determining the need for, or allocation of, its health resources." However, the health outcomes and future needs of all Indian children are linked to the availability of maternity care services for their mothers.

Starting with births occurring in 1989, the National Center for Health Statistics (NCHS) now equates a newborn's race with the race of its mother. The traditional NCHS algorithm, adopted by the California State Department of Health Services, weights the classification of infant's race towards the father's identity in the case of mixed parentage (Appendices 4-A and 4-B). Heuser (1989) has shown using 1987 data from the NCHS National Vital Statistics System that American Indian mothers are more likely to

be teenagers, to have completed less than 12 years of education, to be unmarried, to have late or no prenatal care, to have low birthweight infants, and to have infant deaths compared with non-Indian mothers of children classified as American Indian.\*\* Similar trends were found in the California data. Thus, the information presented here may understate the childbearing problems faced by American Indian women. Further investigations of Indian women's health issues should focus on the causes of these problems, as well as the health status of Indian children.

In studying American Indian births, the data were aggregated for a 3 year period from 1986-88 when comparable data were available for all 3 years. Using aggregated data improved the validity of our findings; it increased the number of births studied and reduced the effects of random variation occurring in events of a single year. Certain variables were introduced into the California birth certificates beginning on January 1, 1989. In order to make use of these newly available data, information was analyzed on mother's educational status and payer source for prenatal care for the single year of 1989. The payer source information is a unique resource; only one other State, Massachusetts, includes these data in birth certificates. Validation studies of new birth certificate items, particularly payer source, need to be conducted; methodologies should be sensitive to the Indian population. For example, questions on payer source may be confusing to persons who are eligible both for IHS services and for Medi-Cal; this issue should be clearly addressed when it is relevant.

#### Number and Distribution of Births

Table 4 and Chart 2 show that the 16,935 infants defined as American Indian made up 1.1% of the State's total newborns in 1986-88. This percentage is slightly higher than the percentage (0.8%) of the California population of all ages identified as American Indian in the 1990 Census. This discrepancy may be accounted for by the method of defining Indian births, differences in data quality in the two data sources, relatively higher birth rates for American Indians than the total population, and/or lower life expectancy for the Indian population. Table 5 and Chart 3 indicate that only slightly more than half (51.3%) of Indian newborns resided in the Indian counties composing the IHS service area. A little less than a third (30.3%) of Indian newborns were residents of primarily federally recognized counties, and 9.4% or 1,596 of the newborns resided in primarily non-federally recognized counties. Slightly over a third (34.1%) of Indian births were to residents of Indian counties with the easiest access to an IHS contract clinic: 1,081 births (6.4%) were to residents of counties without access to a contract clinic.

### Maternal Age

Mothers giving birth to Indian newborns are younger than the Statewide norms, as demonstrated by Tables 6-8 and Charts 4-6. A smaller percentage of Indian births than total births (6.4% vs. 9.3%) in 1986-88 were to women aged 35 and over, a group considered to be at risk for adverse health outcomes. However, the high proportion of Indian births to teen mothers is cause for concern. In 1986-88, 16.7% of Indian births compared to 11.0% of all births were to women under age 20. As shown in Table 7 and Chart 5, the proportion was especially high in the primarily non-federally recognized counties (20.7%) and the indisputably rural counties (22.0%). The pattern for the counties rated by access to IHS contract clinics indicates that teen births are most common in the areas where Indian clinics are least available. Of special concern are births to school-age women under age 18, who are known to be at risk for social and economic reasons (Table 8 and Chart 6). Among Indian births, 6.6% were to women under 18 compared to 4.0% of total births. In Indian counties without access to an IHS contract clinic, 10.2% of Indian births were to women under 18. These findings indicate a need for further information on the availability of family planning services, appropriate maternity services for teenage women, and educational and employment opportunities for young Indian women.

### Maternal Education

Among Indian births in California, mothers' educational level was found to be lower than for the state as a whole, and especially low for births in the primarily non-federally recognized counties (Table 9 and Charts 7-12). Statewide, Indian births were no more likely than total births to occur among women with less than a high school education. However, 5.6% of Indian births compared to 15.2% of total births were to women who had completed college. More than two-fifths (41.0%) of Indian births in the primarily non-federally recognized counties were to women without a high school education, and only 2.9% were to college graduates. These figures reflect in part the likelihood of teen births in the non-federally recognized counties: early childbearing is a predictor of low educational attainment and restricted economic opportunities.

### Fertility

Table 10 and Charts 13-14 indicate that fertility among American Indians in the U.S. is quite high relative to the total population. While only 3.8% of total live births in the U.S. in 1987 were to women having at least their fifth child, 9.5% of American Indian births in 1986-88 were of the fifth or higher order. This pattern was less marked in California, where fertility rates appear to be lower than nationally for American Indians. Six percent (6.0%) of Indian births compared with 5.0%



of total births in California were of the fifth or higher **order**. Nearly two-fifths (39.0%) of Indian births in California in 1986-88 were to primiparous women (i.e., first births), compared to a third (33.3%) of Indian births in the U.S.

### **Birthweight**

Low birthweight, related to premature delivery and/or small size for gestational age, is the most important predictor of infant mortality and a critical health status indicator. Infants weighing 2,500 grams (5 1/2 pounds) or less are almost 40 times more likely to die in the first month of life than heavier **babies**.<sup>49</sup> Those low birthweight babies who survive **have** increased risks of congenital anomalies, mental retardation, growth and development problems, respiratory problems, blindness, autism, cerebral palsy, epilepsy, and other **conditions**.<sup>38</sup> In Healthy People 2000: National Health Promotion and Disease Prevention Objectives,<sup>21</sup> issued by the U.S. Public Health Service, one of the maternal and child health objectives is to "Reduce low birthweight to an incidence of no more than 5 percent of live births ..." The baseline for this objective is the national rate of 6.9% low birthweight in 1987.

**Tables 11-12 and Charts 15-16 demonstrate. that the percentage of** low birthweight among American Indians in California in 1986-88 **was** 6.4%; this was lower than the U.S. rate for all races but higher than the rate for all races in California (6.0%) and considerably higher than the rate of 5.2% for whites and Hispanics (excluding Indians). Low birthweight among infants in California also exceeded the rate for Indians nationwide (**6.1%**). In California, as in the U.S., Indian women have lower rates of low birthweight than women of all races in the **younger age** groups but the pattern reverses among older women. The reason for the increasing relative risk among older Indian **women** is not understood and requires further study. Potential explanations to be explored are the effects of high parity, the cumulative effects of poverty, and the influence of diabetes and gestational diabetes on birthweight among older Indian women. Social support for young mothers in the Indian community, which could offset the risks associated with teen childbearing, is another area that needs to be examined.

Low birthweight is known to be associated with a number of predisposing factors including demographic characteristics, **medical conditions** before and during pregnancy, behavioral and environmental risks, and health care. The effects of physical and psychological stress are currently under **investigation**.<sup>10</sup> Birth certificates provide limited but suggestive information on potential perinatal risk factors: the **effects of** maternal age, education, and fertility patterns on California Indian births require further investigation.

Future studies should also explore medical, behavioral, and environmental risks that may be particularly relevant for Indian women, and especially prevalent among women in non-federally recognized tribes. For example, an assessment of housing, nutritional, and employment conditions among non-federally recognized women could shed light on specific childbearing risks they may face.

### **Substance Use**

Substance use is an important area for research related to patterns of usage and effective strategies for prevention and treatment. Research in Washington State, where maternal smoking behavior is recorded on birth certificates, revealed that Indian women were significantly more likely to smoke during pregnancy than white women.<sup>13</sup> A striking finding was that white women drastically reduced their smoking behavior as they got older, but smoking during pregnancy was **consistently high** for Indian women in all age groups. Since smoking cessation programs are often targeted to teenagers, the Washington State study was valuable in demonstrating the need to include Indian women of all ages in educational and treatment efforts to reduce smoking. Studies of this kind would be valuable for California Indian communities to consider. Alcohol consumption and use of other drugs during pregnancy are highly predictive of adverse birth outcomes, but prevention programs must be guided by knowledge of the usage patterns of specific populations and the effectiveness of particular strategies and treatment modalities.

### **Prenatal Care Utilization**

Tables (13-17) and Charts (16-23) present birth certificate information on utilization of prenatal care for Indian births. The **Healthy People 2000** objective pertaining to prenatal care is to "Increase to at least 90 percent the proportion of all pregnant women who receive prenatal care in the first trimester of pregnancy" (Baseline: 76 percent of live births in 1987). Though the 1987 baseline for American Indian/Alaska Native women was considerably lower, **60.2%**, the same target of 90.0% for the year 2000 was set for American Indians as a special population. In California in 1986-88, prenatal care was initiated in the first trimester for 68.3% of Indian births vs. 74.4% of total births. Late (third trimester) or no care was received for 7.9% of Indian births and 5.8% of total births. For Indian births, prenatal care was somewhat more delayed in the IHS service area than in the non-Indian counties. This pattern was similar but **less** marked for the total population in the two county groupings.

Among the Indian counties, delayed prenatal care appears to be a severe problem in the primarily non-federally recognized counties. Late or no care was received for 9.1% of the Indian

births in those counties, compared to 5.7% of total births in the same counties and 7.6% of Indian births in primarily federally recognized counties. For all races combined, receipt of care was better in the non-federally recognized counties. Furthermore, an extremely high percentage (14.4%) of Indian births in the counties without access to an IHS contract clinic had delayed prenatal care. Although most of the contract clinics do not currently provide prenatal care services, they may serve a gateway function to facilitate entry into care. Table 17 and Chart 24 show that late or no care **was** received for 11.2% of Indian births (2,500 grams, compared to 7.9% of all Indian births in the state. Women who enter care late are likely to have various risk factors that could be ameliorated by timely intervention.

### Insurance Status

Tables 18-20 and Charts 25-29 document the insurance status of childbearing women in California for prenatal care. Mothers of Indian children were less likely to be uninsured than all mothers (6.4% vs. 12.9%). However, the former were much more likely to rely on Medi-Cal (California's Medicaid program) (45.5% vs. 27.6%) and much less likely to have private insurance coverage (39.7% vs. 52.7%). For Indian births, Medi-Cal coverage for prenatal care was much higher in Indian than non-Indian counties (58.1% vs. 36.2%). In primarily non-federally recognized counties, approximately two-thirds (66.2%) of Indian births were covered by Medi-Cal. Correspondingly, private insurance coverage for Indian births was lower in Indian vs. non-Indian counties (24.9% vs. **48.3%**), with only 22.7% of Indians privately insured in primarily non-federally recognized counties compared with 31.7% in the primarily federally recognized area. The lack of private insurance for Indians is not surprising due to low socioeconomic status, high rates of unemployment, and concentration of employment in non-professional/non-managerial occupations. Since California contract clinics do not generally offer prenatal care on-site, the reliance on Medi-Cal to finance care from other providers would be expected even where contract clinics are accessible.

Medicaid has been credited with major improvements in utilization of prenatal care for under-served groups. During the period of initial implementation of Medi-Cal in California from 1968 to 1978, increases in early prenatal care were greater for Medi-Cal than for non-Medi-Cal births in all racial/ethnic **groups**.<sup>42</sup> However, Medicaid's accomplishments have been constrained by a mixture of administrative and financial factors, and receipt of prenatal care by Medicaid clients is far from optimal. In 1986-87, the U.S. General Accounting Office conducted a national survey on prenatal care among the general population of Medicaid recipients and uninsured **women**.<sup>45</sup> Poor care (defined as entry in the last trimester or completion of less than four physician

visits) was reported for 24% of the uninsured and 16% of the women on Medicaid in that study, compared to 2% among a comparison group of privately insured patients. Other studies have found worse utilization among Medicaid patients than among uninsured **women**.<sup>39,48</sup>

The relationship between insurance status and utilization appears to vary across racial/ethnic **groups**<sup>18</sup> and needs to be better understood for the Indian population. In particular, geographic availability of Medi-Cal providers and delays in Medi-Cal eligibility determination must be examined for Indian women throughout California. The impact of recent Medi-Cal maternity eligibility expansions and enhanced Medi-Cal maternity benefits should be evaluated with attention to the special needs of California Indians.

### **Access**

A review of the literature on access to prenatal care for women of all races in an Institute of Medicine 1988 report" grouped common barriers into the following categories: **financial** barriers: inadequate system capacity; organization, practices, and atmosphere of prenatal services; and cultural and personal barriers. Financing is the major perceived barrier. Women also commonly report problems with transportation and child care, inadequate understanding of the importance of prenatal care, lack of awareness of pregnancy, institutional practices, **lack** of available providers and dissatisfaction with providers, and a variety of personal fears. The extent to which these various factors contribute to poor utilization of care among American Indian women has not been studied in California. A comprehensive maternal and child health needs assessment of American Indians in California could identify special risks and access barriers. for non-federally recognized groups, and could inform the IHS regarding the potential benefits of expanding prenatal care services in the contract clinics for all IHS-eligible women.

### **Infant Mortality**

The most widely used indicator of maternal and child health is the rate of infant mortality. Infant deaths in the first year of life correlate with many risk factors shared by vulnerable populations. These factors include poor maternal health and nutritional status, inadequate health care, poverty, low levels of education, and unfavorable environmental conditions. Infant mortality is also sensitive to the uneven distribution of income and social resources and the organization of health and welfare systems. Some innovative research in California has recently revealed that Indian infant mortality may be a problem of much greater magnitude than has previously been **recognized**.<sup>56</sup>

The national objective set by the U.S. Public Health Service (PHS) for the year 2000 is to "Reduce the infant mortality rate to no more than 7 per 1,000 live births" (Baseline of 10.1 per 1,000 live births in 1987). Because of racial variation in infant mortality, special population targets were set in the PHS objectives. For American Indians and Alaska Natives, the objectives are 8.5 per 1,000 live births for infant mortality, i.e., deaths in the first year of life (1987 Baseline: 12.5) and 4.0 per 1,000 live births for postneonatal mortality, i.e., deaths from 28 days until the end of the first year (1987 Baseline: 6.5).

California's reported Indian infant death rates have appeared to be extraordinarily low in recent years, representing vast improvement over the last three decades. According to calculations by the IHS and the NCHS, the California death rate for American Indians/Alaska Natives in 1984-86 was 3.3-3.9 per 1,000 live births, compared with a rate of 9.2-10.3 for Indians in the U.S. The numerator data for these rates were taken from infant death certificates, and denominators were drawn from birth certificates. Using a Birth Cohort File containing linked birth and infant death certificate data, Watson and Oreglia<sup>56</sup> recalculated California's Indian infant mortality rate for the same time period and found that the rate roughly tripled. They classified infants as Indian if either parent was recorded as 'Indian on the birth certificate and separately according to the' NCHS algorithm. Using either method, they obtained an infant mortality rate of 10.3 deaths per 1,000 live births. A similar Centers for Disease Control (CDC) effort using a national Linked Birth-Death File altered the U.S. Indian rate for 1983 from 10.7 to 14.4.32

The 1989 California study by Watson and Oreglia<sup>56</sup> offers convincing proof of severe under-reporting of American Indian/Alaska Native identity on infant death certificates, and cautions against complacency in relation to the problem of Indian infant mortality. Tables 21-23 and Charts 30-33 present analyses of infant death rates for California Indians using the state's linked cohort files. In all of these analyses, Indian infants were defined as those with mother and/or father recorded as Indian on the birth certificate, including Hispanics. It is proposed that these methods present the truest approximation of Indian infant mortality in California.

It can be seen in Table 21 and Chart 30 that Indian infant mortality (10.3 deaths per 1,000 live births) in California in 1984-86 was higher than the Statewide rate (9.3), and higher than in any other racial subgroup except for blacks (17.0) and the poorly defined "Other" group (infant mortality rate of 10.4). To the latter category contains an unknown proportion of American Indians. Neonatal deaths (under 28 days of age) were somewhat lower for Indians than for all races (5.3 vs. 5.9), but the

postneonatal death rate for Indians was alarmingly high. Postneonatal mortality for California Indians was 5.1 deaths per 1,000 live births, compared to 3.4 for the total population.. The only group exceeding the Indian rate was blacks with 6.5 death per 1,000 live births. Table 22 and Chart' 31 reveal that once the California Indian rates are adjusted, they are higher than the published U.S. Indian rates for infant and neonatal deaths and comparable for postneonatal deaths. Presumably, these U.S. rates are under-estimated and will achieve greater accuracy with the use of linked files. Comparisons between California and the U.S. should thus be deferred, and public health officials should be alerted to the likelihood of under-calculations of Indian infant mortality in vital statistics.

The heightened importance of postneonatal mortality highlights the social and economic causes of Indian health problems, since environmental factors are most critical in the postne'onatal **period.**<sup>25</sup> Table 23 and Chart 32 show that nearly half (45.9%) of infant deaths to California Indians were to babies in the normal birthweight range (2,500-3,999 grams). Deaths to infants of all races were more concentrated among low birthweight babies; the normal range accounted for 36.8% of deaths (Chart 32). This provides further evidence that preventable deaths may be occurring to medically low-risk Indian infants because of adverse socioeconomic conditions. Aggressive follow-up of mothers' and infants during the postpartum period and throughout the first year of life appears critical for reducing infant mortality among Indians. A comprehensive range of medical and non-medical services is indicated, including economic and social support **as** well as education.

Analysis of the causes of infant deaths was beyond the scope of the current study, since the absolute number of yearly deaths is relatively small and the death certificates provide limited information. Systematic review of Indian infant deaths is required in order to supplement existing information. For example, a national study indicated that the rate of infant deaths because of birth defects was higher for American Indians than for other racial/ethnic **groups.**<sup>37</sup> It is known that congenital anomalies are poorly reported on California birth **certificates.**<sup>23</sup> Accuracy is greater in reporting by the California Birth Defects Monitoring Program, but their most recently available data on American Indians covers less than half of California counties and fewer than 4,000 Indian births in a 4 year period. A specially focused effort would be necessary to study birth defects in the Indian population, particularly if characteristics such as federally recognized status were of interest.

## MORTALITY

### Methods and Data Issues

Because of the limitations of Census data' for the American Indian population discussed above, and the lack of availability of detailed 1990 Census data at this time, analyses were conducted of the age distribution and causes of Indian deaths in California rather than calculations of mortality rates for particular ages or diseases. Indian mortality rates based on Census denominator data in California and other states are implausibly **low**.<sup>44</sup> By examining proportions of deaths in particular age groups and proportions of deaths attributable to various causes, this study avoided biases that would have resulted from the use of unreliable population counts to calculate rates. However, data drawn from death certificates are also **subject to** certain limitations.

The likelihood of California Indians having Hispanic surnames and not living on reservations increases the chances of racial/ethnic misclassification in death certificates. Based on Watson and **Oreglia's** evidence of under-reporting of Indian identity in California's infant death certificates, special studies are **justified** to assess the under-reporting of Indian deaths at all ages. California Senate Bill No. 2660 mandated the California State Department of Health Services to contract with an appropriate Indian organization to conduct a study to establish **"more valid statistics regarding the death rate for American Indians."** The research plan proposed in the legislation involved acquisition of population data from tribal, Federal, 'State; and county sources and matching the names of identified American Indians with the state's death records for a selected 2 year period. The final phase of the study would involve dissemination of findings "including the provision of training and the development of educational materials for morticians and coroners operating within the state." Unfortunately, the appropriation to fund that important study was never made, and the research has been delayed by the need to find alternative resources.

Problems with the reliability and validity of death certificate data have been a cause of concern at the national level. The National Committee on Vital and Health Statistics convened a workshop in 1989 to assess the quality of cause-of-death data on death certificates and to make recommendations for future improvements. To improve **the** accuracy and utility of death certificates for research purposes, racial/ethnic coding should **be** examined in conjunction with evaluations of causes of death.

Research has revealed that causes of death are reported inconsistently, and that particular causes are likely to be **over- or under-reported**.<sup>53</sup> Particular causes of death may be differentially reported for **American Indians or other groups**.

based on cultural assumptions and biases'. For example, specific traumatic conditions such as homicide, suicide, and accidents tend to be under-diagnosed for the general population: this may not be the case for American Indians who have disproportionate numbers of diagnoses for those causes. Mortality data provided to IHS by NCHS contain only underlying causes of death, and not additional contributing causes. For that reason, this study only examined underlying causes. However, if the underlying causes of death are inaccurately or differentially reported, it would be important in future studies to analyze information on contributing causes and to review medical records as well as death certificates.

### Age Distribution

The age distribution of reported deaths is a useful indicator of health status and can be easily compared between different populations. Table 24 and Charts 33-36 provide stark evidence of premature death among the California Indian population.

Following the pattern for the U.S., deaths occur to American Indians in California at much younger ages compared with the total California population. In 1986-88 in California, only 43.3% of Indian deaths occurred at age 65 or over vs. 68.3% of total deaths. Indian deaths were more than twice as likely as deaths statewide to occur before the age of 45 (28.4% vs. **13.3%**), or before the age of 25 (11.2% vs. 5.3%). Over three-quarters (76.6%) of total female deaths in California were to women age 65 or over, while fewer than half (49.3%) **of Indian** female deaths were in that age group. Indian boys and men in California were particularly likely to die before the age of 45 (32.7% vs. 17.6% for all races), and only 38.8% of Indian male deaths were at age 65 or over.

### Causes of Death

The age distribution of Indian deaths implies that causes of death are different than among the general population: causes of death vary by age and early death eliminates the possibility of dying from causes related to aging. The skewing of mortality towards earlier age groups is a distressing commentary on the life experience of American Indians in the U.S.; it indicates great need and opportunity for intervention activities to address preventable mortality. Causes of death were investigated from California death certificates for deaths occurring to California residents during 1986-88. The effects of tobacco and alcohol on Indian mortality were investigated using methodologies published by the CDC to calculate smoking-attributable and alcohol-related **mortality**.<sup>2,50</sup> Further study of these issues is recommended, since the numbers of Indian deaths involved were small but the findings were alarming.



Table 25 shows that 41.7% of deaths to Indian women and 37.4% of deaths to Indian men were attributable to cigarette smoking in those years, compared to 12.4% and 17.8% of deaths to females and males of all races. The higher proportion of smoking-attributable deaths to women vs. men is notable among Indians, given the reverse among the total population; This implies that smoking prevention and cessation programs in the Indian community must equally, and appropriately, target women as well as men. Alcohol-related mortality for California Indians was found to be comparable to mortality because of smoking, although the effects appear to be greater for men (Table 26). About a third (33.6%) of deaths to Indian women and more than two-fifths (42.1%) of deaths to Indian men in 1986-88 were alcohol-related. The contrast with deaths for all races is stark; the comparable proportions for the total population were 4.3% for women and 8.4% for men. The startling dimension of alcohol- and smoking-attributable deaths among California Indians surely represents a serious problem, but may also indicate some differential reporting of selected causes of death.

All causes of death were analyzed for this study using California death certificates and published U.S. data from the IHS and the NCHS. The classification system of diagnostic codes from the International Classification of Diseases, 9th Revision (ICD-9) which is routinely used by the Office of Planning, Evaluation, and Legislation, IHS, was applied to the California data for the sake of consistency and comparability (Appendix 5). The State of California uses a different methodology, and the IHS method excludes certain diagnoses as potential causes of death. In this study, only the causes considered by IHS were used in the rankings; but other causes were noted if they were equally prevalent.

In Tables 27-28 and 30-45, the 10 leading causes of death in 1986-88 are displayed for **California residents** Statewide and in the separate county groupings in which Indians are primarily members of federally recognized tribes and non-federally recognized tribes. Table 29 provides comparable data for American Indians in the U.S. California data **are** presented separately for females (infants/girls/women) and males (infants/boys/men), in spite of small numbers in the county groupings, because causes of death vary considerably by sex.

Tables 27-29 indicate that the 10 leading causes of death in 1986-88 were identical for Indians in California, Indians in the U.S., and all races in California. In ranked order for California Indians, these causes were: diseases of the heart; malignant neoplasms; accidents (motor vehicle and all other); chronic liver disease and cirrhosis; cerebrovascular disease; homicide and legal intervention; diabetes mellitus; pneumonia and influenza; suicide; and chronic obstructive pulmonary diseases.

The rankings of these causes vary somewhat for the three populations. California Indians appear to be more similar to U.S. Indians than to the total population of California. Over half of all Indian deaths in California (54.2%) and the U.S. (52.9%) are caused by diseases of the heart, malignant neoplasms, and accidents; in the total California population, 55.6% of deaths are attributable to heart disease and cancer alone, without considering accidental deaths. The proportion of deaths due to accidents is lower for California Indians than for U.S. Indians (12.6% vs. **16.1%**), but much higher for Indians in general than for all races in California (5.1%). Chronic liver disease and cirrhosis, which are alcohol-related causes of death, account for a higher proportion of Indian deaths in California (6.7%) compared with U.S. Indians (4.3%) or California all races (1.9%). Within California, homicide and legal intervention, diabetes mellitus, and suicide account for a higher proportion of Indian vs. total deaths. Cerebrovascular disease, pneumonia and influenza, and chronic obstructive pulmonary disease are all somewhat more prominent as causes of death among the total population than among California Indians.

Because of small numbers, causes of Indian mortality could not be analyzed separately for different age groups in California. The IHS has identified the following causes as having higher age-adjusted mortality rates for Indians than for the **total U.S.** population: accidents (Indian vs. all races ratio: **2.3**), chronic liver disease and cirrhosis (ratio: **3.4**), diabetes mellitus (ratio: **2.6**), pneumonia and influenza (ratio: **1.3**), suicide (ratio: **1.3**), homicide (ratio: **1.6**), and tuberculosis (ratio: **5.0**).<sup>28</sup> Although all of these causes are not ranked more highly for Indians than for all races in California, and tuberculosis is not a frequent cause of death, the risks of these conditions among California Indians need to be examined more closely in future studies.

Tables 30 and 32 show the heightened prominence of accidents as a cause of death among Indian boys and men in California (15.1% of male deaths vs. 8.4% of female deaths). Motor vehicle deaths alone accounted for 9.4% of deaths to Indian males. Homicide and legal intervention was the cause of 8.3% of all Indian male deaths in California, but did not rank in the top 10 causes for Indian women. Higher proportions of female (vs. male) Indian deaths were due to cancer, cerebrovascular disease, and diabetes **mellitus**. Nephritis, **nephrotic** syndrome and nephrosis appears as the 10th leading cause of death for Indian women, but does not rank as a leading cause for Indian men. Acquired Immune Deficiency Syndrome (AIDS) was among the top 10 leading causes of death for men of all races but not for **Indians, male** or female, in California.

Deaths to Indians in primarily non-federally recognized counties were more likely to be because of heart disease and accidents, and less likely to be caused by cancer, than Indian deaths in primarily federally recognized counties (Tables 34 and 40). Compared to their counterparts Statewide, Indian females in primarily non-federally recognized counties had higher proportions of deaths because of heart disease, cerebrovascular disease, diabetes, homicide, nephritis, and congenital anomalies (Tables 30 and 42). Heart disease, accidents, pneumonia and influenza, chronic obstructive pulmonary diseases, congenital anomalies, and conditions originating in the perinatal period account for a higher proportion of deaths to Indian males in primarily non-federally recognized counties compared with Indian males Statewide (Tables 33 and 44). In the primarily non-federally recognized counties of California, nearly a quarter (22.7%) of deaths to Indian boys and men were caused by accidents.

These analyses of proportionate mortality are suggestive rather than definitive. Proportionate mortality is a relative, not an absolute measure, and its interpretation can be complex. However, these findings have broad implications for health promotion and disease prevention among California Indians. Strategies for accident prevention, education and prevention programs to lower rates of heart disease, and cancer screening programs appear to be urgent priorities. For Indians in the primarily non-federally recognized counties, these data suggest extremely high risk of accidental death for boys and men, elevated risk of diabetes and violent deaths among women, and high risk of perinatal conditions for both male and female infants.

This information also highlights the need to improve the quality of data required to calculate mortality rates for the California Indian population. Better data and additional resources would facilitate research into the causes of death for infants, children, adolescents, and adults and to study the major causes of mortality in greater detail. More information is needed on the specific sites of cancer, the types of motor vehicle and other accidents, the particular diseases of the heart that claim Indian lives prematurely, the relationships between alcohol and tobacco and the major causes of death, and the interactions between different conditions common to Indian people.

## HOSPITALIZATIONS

### Office of Technology Report

The 1986 Office of Technology (OTA) report, "Indian Health Care," used the IHS patient registration database and the NCHS National Hospital Discharge Survey to analyze in-patient care as a measure of Indian health status, while acknowledging that utilization of

care may be determined by access factors rather than need. The findings excerpted below summarize the authors' interpretation of hospital discharge rates for IHS direct and contract general hospitals and U.S. short-stay non-Federal hospitals:

Given the poor health status reflected in Indian mortality statistics, it is striking that the overall 1984 hospital discharge rate in IHS areas (1,210 per 10,000 population) was lower than that in U.S. non-Federal short-stay hospitals (1,585 discharges per 10,000 population). In general, using data from U.S. non-Federal short-stay hospitals as a benchmark, IHS total hospitalization rates (excluding two tribally run hospitals) were lower than would be expected from mortality rates for accidents and violence, circulatory system diseases, malignant neoplasms, alcohol-related conditions, diabetes; and congenital anomalies. While Indian death rates from accidents, suicide, homicide, and other external causes substantially exceeded U.S. mortality rates in the 3-year period centered in 1981, the IHS hospitalization rates for injuries and poisonings in 1981 only slightly exceeded the U.S. rates.

Part of the reason for low hospitalization rates for certain diagnoses can be explained by the relative youth of the Indian population. For example, diseases of the circulatory system are the leading cause of hospitalization in U.S. non-Federal short-stay hospitals, but are the eighth leading cause of hospitalization in IHS direct and contract general hospitals (hospitals to which IHS service-eligible patients are sent when care is not available in IHS-run facilities). This can be partially explained by the fact that individuals age 65 and over account for 11.3 percent of the U.S. all races population and 60 percent of discharges for circulatory system diseases in U.S. non-Federal short-stay hospitals. In IHS hospitals, Indians 65 and over account for 5.3 percent of the IHS service population and 41 percent of such discharges.

But the relative youth of the Indian population cannot explain all the variation among health status indicators: the disparity between services provided and need is also apparent from a comparison of health care utilization and mortality rates by age. . . . the ratio of IHS to U.S. non-Federal short-stay **hospital inpatient** discharges is lower than the ratio of Indian to U.S. all races mortality rates in all age groups 16 and above. Thus, there is a discrepancy between apparent need and the use of health care. (pp. 105-6)

## California Data

The IHS analyses of in-patient care have always excluded California because of the absence of IHS hospitals. In order to provide some comparative data on hospitalizations, we utilized the hospital discharge database of California's Office of Statewide Health Planning and Development (OSHPD). The OSHPD collects in-patient discharge data from all licensed hospitals in California, excluding Federal hospitals. Repeated admissions of an individual patient cannot be distinguished from admissions of multiple individuals, so the focus is on hospitalizations rather than patients. Among the hospitals' reporting requirements for each discharge is the racial/ethnic identity of the patient, coded in the following categories: White, Black, Hispanic, Asian, Native American/Eskimo, Other, and Unknown.' We utilized data classified as Native American/Eskimo to represent the American Indian and Alaska Native population.

Caution must be taken in interpreting findings from the OSHPD Hospital Discharge Database, since **race/ethnicity** is not **self-reported** and attribution of Indian identity by hospital personnel results in significant under-reporting. Hispanic and Indian are mutually exclusive choices in the racial/ethnic coding for these **data**, which increases the likelihood of under-reporting for Indians. A study conducted by OSHPD to evaluate the **reliability** of items in their hospital database provides evidence of both under-reporting and misclassification of American Indian **patients**.<sup>40</sup> Discharge records from 30 randomly selected **California** hospitals were re-abstracted for the second half of 1988. Since Indian health was not a focus of the study, the sample was not drawn with the intent of representing the Indian population. Only 10 (or 0.4%) of the 2,579 cases reviewed were classified as American Indian. The study concluded that two of those cases should have been reported as Hispanic and two as Asian, leaving a total of six reported Indian discharges. None of the other records **were reclassified** as American Indian in the study.

Of the **3,596,669** hospital discharges **occurring in** 1988, 6,672 or 0.2% were coded as Indian (Table 46). Since Indians made up 0.8% of the state's Census population in 1990, it appears that they are greatly under-reported and/or under-represented among hospitalizations. Asians and Hispanics also appear to be **under-represented**. Further evidence of under-reporting is shown in Table 47, which compares newborn **hospital records** with birth certificates coded as American Indian. In 1988, 5,764 **California certificates** of live births had mother and/or father identified as American Indian; among the newborn hospital records, which exclude out-of-hospital births, only 908 were coded as American Indian. Birth certificates are not a **"gold standard"** for race/ethnicity but can be assumed to be more accurate than hospital records since they allow for self-identification.

It is notable that the greatest discrepancy in reporting of Indian births was found in the counties without access to a tribally-operated clinic. This may indicate that referrals from Indian clinics enhance identification of persons as Indian. Based on comparison with population data in Table 1, information displayed in Table 48 suggests that Indians are better represented among hospitalizations if they live in Indian counties, especially federally recognized counties, and if they have access to a nearby Tribal Health Program. Access to primary health care, via IHS eligibility and availability of Indian clinics, would be expected to facilitate referrals for hospitalization.

The age and sex distribution of California Indian hospitalizations is examined in Table 49 and Charts 38-40. Men are under-represented among hospitalizations, in large part because obstetric causes dominate hospital admissions. Males constitute 43.8% of California Indian discharges, 41.0% of total California discharges, and 37.3% of U.S. Indian discharges. Indian hospitalizations occur at younger **ages** than hospitalizations for all races in California, among both females and males. Only 12.4% of Indian discharges, compared with 27.0% of total discharges and 32.6% of white discharges, are persons age 65 and over. Persons under 25 represented 40.2% of California Indian hospitalizations, compared with 24.8 of the **State's** white discharges. California Indian discharges were more likely to be under age 15 and less likely to be 15-24 than U.S. Indians in IHS direct and contract facilities, but California Indians closely resembled U.S. Indians in the proportion of hospitalizations for age groups 25-64 and 65 and over.

The youthfulness of hospitalized Indians is especially striking for residents of the primarily non-federally recognized counties (Table 50 and Charts 41-44). Among Indian residents of those counties, 40.5% of hospital discharges in 1988 were under age 15, 57.4% were under age 25, and only 10.3% were age 65 and over. Over half (50.7%) of the male discharges were under age 15, compared to 29.5% in the primarily federally recognized counties. This startling finding may be because of a combination of factors, including the age distribution of the population: excessive rates of illness and accidents among-Indian male infants, children, and adolescents; lack of primary care for children, which could prevent hospitalizations; and early death and inadequate access to hospital care for the elderly. Future studies of non-federally recognized Indians in California should examine causes of hospitalization and access to preventive ambulatory care in a more thorough manner. Record review, patient and community surveys, and case studies of tribes and counties would be **required**; small numbers limit the utility of secondary data for such purposes.

## Causes of Hospitalization

The 6,672 American Indian discharges from California hospitals in 1988 predominantly represented acute-care patients; only 29 (0.4%) had a length of stay of 100 days or more. However, the causes of hospitalization included chronic conditions as well as obstetric admissions and substance abuse and other psychiatric diagnoses. Tables 51-58 codify all the major diagnostic categories using ICD-9 classifications and show the relative proportion of hospitalizations in each category for California Indians and all races. No striking differences were seen in the ranking of causes for either women or men, and the profile for the primarily non-federally recognized counties did not appear to be distinctive. However, differences may be submerged with the use of such general diagnostic categories.

Table 59 displays the mean age and mean charges for Indian vs. total discharges in each of the major diagnostic categories. Consistent with the younger age distribution of the Indian population, the mean age of Indian hospitalizations was lower in every category. Differences were most **striking for** diseases of the nervous system, the respiratory system, and the digestive system, as well as for injury and poisoning. Mean charges were generally higher for the all races population, but notably higher for Indian hospitalizations in three categories: neonatal conditions, congenital anomalies, and infectious and parasitic diseases. If mean charges are an index of severity for these conditions, these data may reflect lack of access to adequate prenatal and other preventive care. Further studies of hospital charges would need to control for hospital characteristics, since allocation of resources might vary by hospital ownership type and teaching status.

More detailed analyses of causes of hospitalization were conducted by ranking individual three-digit ICD-9 diagnoses. Tables **60-67** list the 15 leading hospital diagnoses for relevant groups. Some tables contain more than 15 diagnoses because frequencies were identical for multiple causes that would have ranked fifteenth. Because of small numbers of cases and questionable data quality, all ages were combined in these analyses and only principal diagnoses were studied. Age-specific studies of hospitalizations involving both principal and secondary diagnoses should be developed in the future. The importance of co-morbidities is demonstrated by investigation of diabetes as a secondary diagnosis. The proportion of Indian hospitalizations with diabetes mellitus as a principal diagnosis was 1.6% for boys and men and **1.2% for** girls and women; however, the additional proportion with a secondary diagnosis of diabetes was 7.0% for males and 9.2% for females.

For women, diagnoses that appeared as leading causes among Indians but not among the total population were abnormality of forces of labor, diabetes mellitus, and other cellulitis and abscess. The greater importance of diabetes is notable since the Indian group should be at lower risk of diabetes by virtue of being younger. The prevalence of cellulitis/abscess may be an indicator of low socioeconomic status, alcohol and other substance abuse, and diabetes. Obstetric diagnoses are somewhat more dominant among Indian discharges, which may reflect poor access to care for conditions whose treatment is more discretionary. Cardiac diagnoses are ranked among the leading causes of hospitalization for women of all races, but not for Indian women. This may be a function of the different age distributions, though heart disease is the leading cause of death for Indian women. An alternative explanation would be lack of preventive and diagnostic treatment for heart disease, and displacement of cardiac problems by diabetes and diabetes-related illnesses as principal diagnoses.

Among male hospitalizations Statewide, leading diagnoses unique to Indians (vs. all races) were other cellulitis and abscess, alcoholic psychoses, chronic liver disease and cirrhosis, and diseases of the pancreas. The dominance of alcohol-related diagnoses among Indian men mirrors the severely high proportion of alcohol-related mortality among California Indians. The urgent need for substance abuse education, prevention, and treatment cannot be over-emphasized, along with the necessity of improving educational and employment opportunities and socioeconomic conditions for California Indians.

Hospitalization data for the primarily non-federally recognized counties were sparse, and could not be disaggregated by sex. Three diagnoses which appeared in the leading causes of hospitalization for residents of those counties were not found for all races in the same counties or for Indians residing in primarily federally recognized counties. The first of these diagnoses was disorders relating to short gestation and unspecified low birthweight, reflecting problems with prenatal care access as well as low socioeconomic status. The second cause was cellulitis/abscess, implicating problems with substance abuse and diabetes in addition to poverty. The third diagnosis was acute bronchitis and bronchiolitis, suggesting lack of preventive out-patient care.

### **Payer Source**

Finally, hospitalizations were analyzed by expected principal source of payment. Little is known about the health insurance coverage of American Indians obtaining services outside of the IHS or the cost of care for Indians reimbursed by other public and private payers. The IHS payment is residual by law, meaning that other sources (e.g., Medicaid, Medicare, private insurance)



must be utilized before IHS is obligated to provide coverage. The residual role of IHS is most strictly enforced in the case of contract care.

In California, all in-patient care for eligible Indians is on a contract basis and must be reimbursed out of the area's allocation for contract care. The California Area IHS sets priorities each year and essentially must ration hospital care, deferring services when allocated funds are depleted. In fiscal year (FY) 1988, the total amount spent by IHS for in-patient contract health services in California (including **medical-surgical** adult and pediatric admissions, obstetric admissions, and newborn admissions) was **\$1,000,754**. This represented 2.4% of total hospital charges for American Indian discharges in California hospitals and 3.6% of the subtotal for Indian discharges charged to all government payers in calendar year 1988 (Table 68). If the small proportion of identified Indian discharges in California hospitals partly reflects financial and other access barriers to in-patient care, this level of funding may be inadequate to supplement the alternative resources available to **California** Indians for necessary hospitalizations.

The Survey of American Indians and Alaska Natives (SAIAN) of the 1987 National Medical Expenditure Survey (NMES) included questions on supplementary sources of insurance coverage for a national sample of IHS-eligible Indians. The survey did not distinguish between coverage for out-patient versus in-patient care. The SAIAN findings **indicate that** the majority of Indians' currently covered by the IHS have no other public or private health insurance." Of the Indians- surveyed, 54.9% had no other coverage supplemental to IHS; 28.1% were privately insured (compared to 74.5% of the U.S. population), 21.0% had any other public coverage (11.4% Medicaid, 6.3% Medicare, 3.3% other). Although Indians working full-time were more likely than other Indians to have private insurance, job-related coverage was lower for Indians than for all workers regardless of wage levels or employer size. Some IHS-eligible workers may choose not to participate in employment-based **insurance plans** because of co-payments and deductibles. These findings illustrate the importance of IHS benefits in guaranteeing coverage for large numbers of Indian persons who might otherwise be uninsured. The alternative resources of IHS-eligible persons also determine the level of resources available to IHS-operated and supported facilities via third-party reimbursement from private or public sources.

Tables 69-73 and Charts 45-48 present information on expected principal source of payment for hospitalizations of American Indians in the 1988 California hospital discharge database.

Unlike the SAIAN data, this information is not population-based; it is based only on coverage of hospitalized persons identified as American Indian. The extent to which inadequate insurance serves as a barrier to hospitalization cannot be estimated from these data. Both financial factors and lack of routine involvement in primary care may decrease the likelihood of receiving non-crisis hospital care. Insurance for hospitalizations is not always identical with out-patient coverage, which is likely to be more restricted and to involve higher levels of self-payment. Sources of public coverage in California include Medi-Cal (**California's** Medicaid program) and Medically Indigent Services (MIS), a State-funded program that compensates county hospitals for care of uninsured persons meeting 'specified income criteria. The combined proportion of MIS and self-pay discharges provides an indicator of uninsured hospitalizations.

It can be seen in Table 69 that American Indian hospitalizations in 1988 were more likely to be covered by government payers (54.7% vs. 48.6%) and less likely to be privately insured (33.5% vs. 43.5%) than discharges for all races in California. Presumably, the **"other government" category accounting** for 3.6% of Indian hospitalizations included IHS contract care payments. The overall difference in public coverage, however, was less significant than the differences in type of public payer. Indian hospitalizations were only half as likely as all discharges to be covered by Medicare (12.5% vs. 25.4%) and nearly twice as likely to be reimbursed by Medi-Cal (31.4% vs. 17.3%). The low proportion of Medicare reflects the younger age distribution of Indian discharges and possibly lower eligibility levels among Indian elders due to limited labor force participation. The importance of Medi-Cal coverage for Indians signals high poverty rates: another marker of low socioeconomic status is the proportion of Indian discharges covered by MIS (6.1% vs. 2.4% of all discharges). The percentage of self-pay (uninsured) discharges was also considerably higher for Indians (10.8% vs. 6.6%). By combining the MIS and self-pay categories, we see that Indian discharges were nearly twice as likely to be uninsured (16.9% vs. 9.0%).

Table 70 indicates that coverage was quite similar for Indian females and males except for a higher proportion of female discharges reimbursed by Medi-Cal. This would be explained by the likelihood of women's Aid for Families with Dependent Children (AFDC) participation, the predominance of obstetric hospitalizations for women, and the broadened eligibility criteria for Medicaid maternity coverage. Indian men's greater coverage under MIS corresponds to their lack of Medi-Cal **coverage**; slightly higher coverage of men by Medicare parallels the relative proportions of hospitalizations age 65 and over.

Table 71 confirms that Indian women are heavily dependent on Medi-Cal for pregnancy-related hospitalizations (40.6% of discharges), though they are somewhat more likely to have private coverage during pregnancy than during hospitalizations for all causes (cf. Table 70).

Principal source of payment for hospitalizations is examined for American Indians and all races within age groups in Tables 72 and 73 and Charts 45-48. Among the non-elderly, Indians consistently relied more on government sources and less on private insurance. For infants, children, and adolescents under age 15, Indian discharges were much more likely to be covered by Medi-Cal (44.0% vs. 31.5%). Among older teens and young adults ages 15-24, only 30.8% of Indian discharges were privately covered and 20.9% lacked insurance. The most marked differences between Indians and all races were evident in the **25-64-year-old** group; 49.4% vs. 30.9% with government coverage, 38.1% vs. **60.2%** with private coverage, and 22.0% vs. 11.9% uninsured. This age group benefits the most from employment-related insurance coverage; however, California Indians do not benefit nearly as much as the California general population. Among elders 65 and over, similar proportions of Indian and total **discharges were** covered by government payers. However, Indian hospitalizations are less **likely** to be covered by Medicare (78.2% vs. 87.4%) and more likely to qualify for Medi-Cal (9.9% vs. 3.2%) based on low income and lack of other coverage.

These findings on a sample of the elderly who do get hospitalized highlight the need to study the conditions and resources of all older American Indians, who may have poor access to hospital care because of lack of insurance. For all age **groups, population-**based studies are needed to assess unmet need for both in-patient and out-patient care. Such studies could be expensive to conduct, given the dispersion and mobility of the Indian population and the difficulty in identifying Indian persons outside of reservations. Research strategies need to be carefully planned with central involvement of the Indian community and agencies.

#### OUT-PATIENT CARE

##### Statewide Clinic Database

Limited information is available on Statewide utilization of out-patient care by American Indians in California. **Non-hospital-**based clinics are required to submit data, including patients' race/ethnicity, to OSHPD on an annual basis. Licensed clinics of the following types are included in the OSHPD Annual Report of Clinics: community clinic; free clinic, psychology clinic, surgical clinic, chronic dialysis clinic, and rehabilitation clinic. Community clinics should include the tribally-operated 638 clinics and the urban Indian clinics, but the completeness of

reporting for these and all other clinics in the State is unknown. In 1988, 43,636 Indian patients (2.3% of total patients) were reported in this database of clients making clinic visits. This appears to be a good representation of Indians in California. However, **IHS-eligible** and other low-income Indians would be expected to seek care from clinics more often than from private providers. Overall utilization of out-patient care cannot be evaluated, since no comparable source of data is available to estimate use of non-clinic services.

### **IHS California Area Office (CAO) 1990 Profile**

Information on the status of the IHS-funded 638 clinics is integral to this report, since the Tribal Health Program operations define the **quality** of care available to IHS-eligible persons and require adequate funding to serve the entire population defined as eligible. Following are excerpts from the report prepared by the Area Planning Branch, "California Area Office (CAO) 1990 Profile," which indicate some of the needs for additional resources in a system already stressed by growing demands:

. . . .With a U.S. Census population of over 200,000 Indian **people**, less than fifty (50) percent of these Indian people are currently registered and/or **utilize** the health care delivery system as provided by the Tribal 638 Contracted Programs and Consortiums, Urban Health Programs, and the Indian Alcoholism Programs. The use of the State's Medi-Cal system with non-IHS/Tribal providers, under-sized, understaffed, under-equipped, and under-funded Tribal programs and facilities, and poor accessibility in some rural areas. have contributed to the low numbers served.

As of December 1989, there were 94 federally recognized Indian Tribes in California with many others in the process of seeking federal recognition. The majority of the tribal populations are **too small** to operate full fledged health stations, health centers and hospitals and therefore by necessity, they have formed health consortiums with neighboring tribes to provide their much needed health care services and programs. There are presently 21 rural tribal health program operating units, 8 urban health programs and 14 alcohol programs.

The delivery of health care to the State's Indian population presents a unique challenge to the IHS. First, unlike other Areas of the IHS, California is a total 638 contract state where the tribes have established and maintain full responsibility for the development and operation of their own health care facilities, programs and services.

Secondly, no tribal health facility or program in California has been designed, built, staffed, equipped or funded even at the minimum requirements of the IHS health facility planning criteria and therefore 638 is merely a funding mechanism and not an IHS takeover or start-up facility or program as is the case in most other IHS 638 contracts. Thirdly, IHS service units have never been officially sanctioned in California, but instead, service areas have evolved over time which reflect demographic concentrations and political negotiations by the Indian tribes themselves and the subsequent health consortiums.

Finally, individual tribes and/or tribal consortiums who contract under the 638 contracting or Buy-Indian mechanisms for the most part, have become incorporated in the State of California as non-profit corporations with boards of directors governing the service area program. Health program staff are employees of the individual corporations and recruitment and retention of quality staff remains a continual problem as well as the financing of such employees.

There are no IHS inpatient facilities in California, and patients who require hospitalization utilize ... facilities that are located nearby. In some cases, tribal physicians have privileges at the local hospitals and follow their patients through the system. Otherwise the patients are referred to private physicians using contract health services funding and/or alternative resources.

The lack of direct IHS operations and the underfunding of the tribal programs has resulted in a greater reliance on outside agencies such as Housing and Urban Development (HUD), Community Development Block Grant Program, State Indian Health Branch, and other funding sources to supplement IHS funding. A vital role of IHS in California is to provide technical assistance to tribal clinics in such areas as preparation for accreditation by the Joint Commission on Accreditation of Health Care Organizations (JCAHCO), development of clinic protocols, development of Quality Assurance (QA) Plans, facility planning, health board training, development of a usable patient data base and MIS systems. The Area Office also provides monitoring and contract compliance.

The majority of IHS planning is concentrated on efforts for the rural workload. In **nearly all** of the programs, the registered user count reveals that the threshold **population[s]** necessary for comprehensive service development are not met. This is indicative of the small size and remote character of service **area programs**.

All Rural and Urban programs provide dental care to the eligible Indian population within their service areas. These dental programs vary in size from a part-time dentist and dental assistant working at a two chair dental clinic to a program with four full-time dentists, one full-time dental hygienist and eight full-time dental assistants utilizing thirteen dental treatment rooms.

The primary mission of **CAO** is to raise the health status of American Indians to the highest possible level by supporting a comprehensive health care delivery system and by increasing the capability of tribal health contractors in meeting their health needs.

#### Major Health Problems

The pattern of acute and chronic otitis media, diabetes, and hypertensive disease is similar to the pattern found throughout the IHS. Trauma from homicide, suicide and accidents account for 23% of the major causes of death. California Indian communities are heavily impacted by substance abuse and the many disruptive consequences attendant to these problems.

The provision of maternal and child health services has been impacted by the rising cost of malpractice insurance premiums. The infant mortality rate statewide is 10.3 [deaths per 1,000 live births]. With changes in the extension of Federal Tort Claims protection it is **now** possible for tribal contractors to begin to develop comprehensive prenatal services. Obstetrics/Gynecology (OB/GYN) specialists, however, are not available in most rural areas.

#### Sanitation & Environmental Health

Statewide there are 70 Community Water Systems, 10 Community Sewer Systems and 17 Solid Waster Disposal Systems operated and maintained by Tribes. There are approximately 500 Indian homes that are on individual water systems and 2,910 homes on individual wastewater disposal systems. The need for new water and sewer hookups and upgrades [is] shown in the following table:

<u>Types of Service</u>	<u>Number Needed</u>		
Individual Water Systems	270		
Community Water Service-connection	270		
Individual Water System upgrades	53		
Community Sewer-connection	100		
Individual Wastewater Disposal System	340		
Individual Wastewater System upgrades	6	1	0

Some of the individual facility needs will be funded in conjunction with HUD Housing or HUD Community Development Block Grant projects.

#### Substance Abuse Program

The number one health problem facing California Indians, is related to alcohol and substance abuse. A high percentage of clinic visits, deaths from accidents and homicides, and mental health problems are alcohol-related. For these reasons, the Area office has placed emphasis on activities related to prevention and on providing outreach to a greater number of Indian people. In FY 1989 there were 33 Indian alcohol programs in California with 7 more planned for the coming year .... A need within the tribal programs is additional funding necessary to hire full-time mental health counselors in 19 tribal programs, **including masters** level health/social workers for data coordination and children's services.

#### Health Education

Few of the tribal 638 programs in California have Health Education Programs. The historical lack of comprehensive health programs within California with its resultant lack of funding has resulted in few health educators among the staffs of tribal health programs. One goal of the area health education program is to develop tribal health education programs based on identified needs. This will include the development of a California Area and Tribal Education Program Plan .... The workload and identified need for health promotion and disease prevention activities will require at least one or more full-time area health educators and at least seven **full-time** health educators within the tribal programs.

The California Area Office experiences a disparity of health education funding in comparison with other comparable Areas in the IHS. California tribes have realized this disparity and are increasingly looking to the IHS for guidance and technical assistance in order to provide more comprehensive programs.

#### Area Dental Program

For the most part, the dental program was the first health component to be developed within the various tribal 638 programs and has proven to be a solid foundation for expansion into medical and other health service components.

Several concerns of the **CAO** dental program include the slow turn around of dental data received from the Division of Data Processing Services (DDPS) in Albuquerque, the growing number of non-Indian patients receiving dental services in California, the ever present broken appointments and the overflow from neighboring tribal program areas.

[In findings from an Oral Health Survey of Native Americans published in January 1985, the number of dental services required for the IHS service population in California was **507,226**. The number of dental services provided to Indians in rural and urban programs in fiscal year 1988 was 156,481, or 30.9% of the estimated need in that survey.]

### Pharmacy

The majority of the tribal clinics in California. do not have a pharmacy or pharmacist(s) and thus have to rely on purchasing expensive drug **prepacks** for physician dispensing or use CHS money to buy drugs from local pharmacies. Tribal clinics cannot utilize the government depot system to gain economies of scale. Tribal clinics are not able to educate the patient on how to properly take their medications, provide in-service to the clinic staff on drug issues, aid the physician in monitoring drug therapy and monitor drug utilization. There are no pharmacists to ensure that true generic equivalents are being substituted. Those few clinics that do have pharmacists have trouble recruiting and retaining these professionals.

The Area has assigned duties to a part time Area Pharmacy Officer to help address pharmacy issues. A pharmacy needs assessment has been completed and a plan outlined to address the issues of cost containment, **patient safety** and legal requirements including the notion of an area or regional dispensary. A full-time pharmacy officer will be required to fully meet the needs of California tribal clinics ....

### Planning Assumptions

Population sizes and dispersion of tribal groups in the California Area makes it unlikely that a hospital-based service program will develop within the area. Because of this, tribal programs will continue to rely upon the private and other public sector hospital facilities to meet inpatient and emergency needs. Since the majority of the programs have not developed expertise in laboratory, pharmacy and x-ray specialties, these services will continue to be purchased from the private sector. The further erosion of funding for public assistance programs, including the Medi-Cal system and the spiraling costs of health care



in the private sector, will create a shift of patients into the CHS eligible work load ... (pp. i-ii, 1-7)

### Urban Indian Clinics

Urban Indians are generally not eligible for IHS services, and little is known about their health status and needs. In an urban Indian needs assessment conducted by Gerald Hill, M.D., in the San Francisco Bay Area in 1986, 30% of the respondents reported fair or poor **health**.<sup>6</sup> This contrasts with 12% of the general U.S. population reporting similar health status in 1976-78. Over a third of Bay Area Indians (34%) had no public or private health insurance coverage, compared to 9% of the general population in a 1982 national access survey. Forty-one **percent** reported that they had not received needed medical care within the previous six months, compared to only 6% of total families in the national survey. Utilization of preventive out-patient care was also poor compared to the general population. Data on tribal affiliation and Federal recognition were not collected, but reservation-based services remained an important source of care for this urban population. Five percent named IHS facilities outside of the Bay Area as their usual source of care, and another 15% stated that someone in their household had sought medical or dental care on a **reservation** in the previous year.

A report prepared for IHS by the American Indian Health Care Association summarized data from eight California urban Indian health clinics for FY 1988, though reporting appeared to be **incomplete**.<sup>55</sup> Total encounters reported were 18,313 for medical visits and 13,798 for dental visits. The number of **Indian users** was reported to be 2,605 for medical services and 2,119 for dental care. According to the survey findings discussed above, the number of American Indians lacking health insurance in the Bay Area alone may total more than 6,000. A significant number of urban Indian people lacking other resources may rely on rural health care supported by the IHS.

### **REPORTABLE INFECTIOUS DISEASES**

One of the important historical achievements of the IHS has been the decline in mortality for reservation Indians because of tuberculosis and other infectious diseases. However, it appears that Indians are still more vulnerable than other groups to communicable diseases because of poverty, substandard housing, and other socioeconomic disadvantages." The quality of race/ethnicity data for 1987 in the CDC National Notifiable **Diseases** Surveillance System was found to be incomplete and variable, though the reported incidence of infectious diseases was considerably **elevated for racial minorities**.<sup>7</sup> Reported **incidences** of gonorrhea, hepatitis A, and shigellosis were highest for American Indians and Alaska Natives; Indian rates were also quite high for hepatitis B and tuberculosis, and could

not be calculated for the other diseases studied. Considering these and other findings, Indian cases of gonorrhea, syphilis, tuberculosis, and hepatitis B in California appear to be under-reported in Table 74.

The need for better racial/ethnic coding and more complete reporting of Indians in communicable disease surveillance is nowhere more clear than in the case of AIDS. A Los Angeles study indicated that up to 50% of American Indian AIDS cases may be racially misclassified in the Los Angeles County AIDS surveillance **registry**.<sup>34</sup> The total number of Indian AIDS cases of all ages reported to the CDC through June 1991 was 273, (HIV/AIDS **Surveillance**)<sup>24</sup> but anecdotal evidence and the presence of numerous risk factors suggest that the actual number may be much **higher**.<sup>16</sup>

Native Americans are in the lowest economic bracket, are less educated, die younger, suffer more health problems and substance abuse, go to prison more often, have far inferior access to health care, poor diets, high unemployment, higher rates of communicable diseases, **otitis media**, upper respiratory infections and more accidents, homicides and suicides than the population as a whole. The **poor health** of Native Americans may speed the development of AIDS in an HIV infected individual. Lack of access to technologically advanced health care and the means to pay for it will hasten death once ill. (Easthope and Asetoyer, pp. 2-3)

Provisional data from the CDC show a recent sharp upswing in the number of reported tuberculosis cases to American Indians in California: 41 cases in 1990, compared to 29 in 1988, and 27 in 1989. For 30 years prior to 1988, the trend was waning and the statistics were generally consistent. In California, as in the U.S., tuberculosis appears to be an increasing problem. Though reporting procedures and classification issues may cloud the meaning of the TB data, this may be another indicator of the impact of AIDS on California **Indians**.<sup>29</sup>

#### FEDERAL AND **STATE** HEALTH AND **WELFARE** PROGRAMS

With the assistance of the Indian Health Program of the State of California Department of Health Services, available data on **Indian participation** in Federal and State health and welfare programs were surveyed. These programs are important as resources for health care, health-related and social services, and income support. Given the low-socioeconomic status and significant health problems demonstrated for American Indians, access to a wide range of services appears to be essential.

Some government programs operate in conjunction with the tribally-operated clinics, while others must be accessed independently. It was beyond the scope of this study to thoroughly assess the needs for and utilization of various programs; instead, the representation of Indians among clients receiving selected services was reviewed. With adequate resources, a multi-agency database could be produced that would help to coordinate and ensure proper utilization of government programs by American Indians in California.

Table 75 presents 1987-90 data on participation of American Indians in the Food Stamp program and programs of the Department of Social Services, Medi-Cal, Office of Family Planning, Mental Health, Child Health and Disability Program, Department of Developmental Services, Department of Rehabilitation, and Preventive Health Care for the Aging. In the State as a whole, Indians appeared to be under-represented (less than 0.8%) among all clients receiving services except for Food Stamps, Aid to Families with Dependent Children (AFDC), and Greater Avenues for Independence (GAIN), which is an AFDC-related employment program. These estimates of representation in the service populations cannot be quantified in relation to actual need. One further indicator of extreme need, not shown in the table, is the number of Indian applicants (181 families) approved for AFDC Homeless Assistance, representing 1.6% of total approved applicants during May 1989. This information should prompt an investigation **of the** extent, causes, and consequences of homelessness among the Indian population in California.

Where data were available, the representation of Indian clients in the primarily federally recognized and non-federally recognized counties was also examined. In both subgroups of Indian counties, participation was extremely low in the Child Health and Disability Program (CHDP), California's Early and Periodic Screening, Diagnosis and Treatment program (EPSDT). Indian clients were under-represented among mental health and family planning clients in both federally recognized and **non-**federally recognized counties, and appeared to be better represented in the Food Stamp program in both areas.

More detail is presented in Tables 76-78 on services provided to and characteristics of Indian clients in some of these programs. Data shown in Table 76 indicate that American Indians received **low levels** of Medi-Cal funding in FY 1988 for all services except rural health and other clinic services, which may primarily represent services received in tribally-operated clinics. No Indian clients were identified in FY 1988 as Medi-Cal recipients of in-patient psychiatric services or mental health services for the aged in mental hospitals, skilled nursing facilities, or intermediate care facilities. Medi-Cal funding was also minimal for utilization by Indians of all intermediate-care facilities, dental services, and home health services.

Data on State-funded family planning services indicate that Indian clients were younger than clients of all races in FY 1988 (Table 77). Among American Indian contraceptive clients in FY 1988, 31% were under age 19, compared with 19.2% of total clients. Although the numbers of all male clients were small, it is notable that Indian males represented a higher proportion of total clients than did Indian females. In spite of the high prevalence of teen childbearing among Indians, these data suggest that family planning programs may provide useful sites for a variety of health promotion and treatment programs targeting Indian teenagers. A higher percentage of Indian females using Office of Family Planning services did not receive any contraceptive method (8.8% vs. 5.7% of all clients). This may indicate that Indian clients were more likely to be pregnant or seeking pregnancy, to be dissatisfied with previous methods, not to be sexually active, or were unable to utilize available prescribed methods due to poor health status.

Table 78 compares the major disabilities of Indian and total clients in the State Department of Rehabilitation in FY 1989. The high proportion of Indian clients with alcoholism as their major disability (29.8% vs. 12.2% of total clients) reflects the severity of alcohol-related problems in the Indian community, but could also indicate a relative lack of needed services in other areas, especially mental health and other drug treatment. Characteristics of Indian clients served by state drug and alcohol programs in FY 1989 are shown in Table 79. Indian clients, especially in the primarily non-federally recognized counties, were more likely to be female than male. A small proportion of Indian clients (6.8% Statewide) were under age 18. Most services were provided on an out-patient basis; in the non-federally recognized counties, only 4.7% of Indian clients received in-patient treatment. The vast majority of Indian clients (100.0% in non-federally recognized areas) lacked private health insurance. Over 60% of Indian clients were being treated primarily for problems with heroin. Only 41 Indian clients Statewide (4 in federally recognized counties and 6 in non-federally recognized counties) were admitted to programs primarily for alcohol treatment. The availability and accessibility of alcohol and other drug programs for California Indians is an important topic for future study.

## ASSESSMENT OF NON-FEDERALLY RECOGNIZED INDIANS OF CALIFORNIA

### Introduction

Part (E) of P.L. 100-713 (Section 709) requires the IHS to provide an assessment of the actual availability and **accessibility** of alternative (non-IHS) health care resources for California Indians who are not members of a federally recognized tribe of California. The following section describes the design, implementation, and results of the assessment conducted by the

California Tribal Health Programs to obtain this requested information on health care needs, current utilization, and alternatives available to non-federally recognized Indians of California.

### **Background**

According to IHS registration records, approximately one-fourth of currently registered American Indian individuals at California Indian Tribal Health Clinics are not members of a federally recognized Indian tribe of California. Eligibility for **IHS-**funded care for these persons is authorized currently under the 1988 Indian Health Care Amendments. The criteria for eligibility outlined in those amendments includes three categories: 1) descendants of a California Indian alive in 1852, 2) individuals who hold trust interests in a public domain, national forest, or Indian reservation allotment in California, or 3) individuals who are listed on the plan for distribution **of the** assets of California rancherias and reservations under the Act of August 18, 1958. Hereafter in this report, persons in these three categories will be referred to as non-federally recognized Indians of California (NRICA).

Three years ago, Congress requested in Section 709 of P.L. **100-713** that: "**in** order to provide Congress with sufficient data to determine which Indians in the State of California should be eligible for health services provided by the Service (IHS), the Secretary shall prepare and **submit a** report to the Congress ... which sets forth .. . (E) an assessment of the actual availability and accessibility of alternative resources for the health care of such Indians that such Indians would have to rely on if the service did not provide for the health care of such Indians." The law further specifies that the report shall be prepared with the assistance of the Tribal Health Programs of California providing services to the Indians **described (i.e.,** NRICA).

Determining the availability and accessibility of alternative resources for care of non-federally recognized Indians of California (NRICA) is a particularly difficult task. First, defining and locating the population of interest is difficult, because there is no central register of California Indians who do not belong to a federally recognized tribe. Second, no existing source of data is available on how many of the NRICA have alternate resources for health care, such as private health insurance or Medi-Cal coverage. Many of these individuals are low-income and would have to **depend upon** public programs for health care. However, the public programs currently available for low-income Californians vary greatly by county, making an overall assessment of alternative resources difficult.

Finally and most importantly, individuals generally do-not explore alternatives until the time of actual need. Thus, any information obtained on health care alternatives would be at best speculative.

After consideration of the difficulties and limitations noted above, a subcommittee of the Tribal Advisory Committee decided that the most appropriate way to collect the necessary information would be through an assessment of the NRICA conducted by the California Tribal Health Programs. This would allow for the collection of information from this group on current and potential use of alternative health care sources not funded by IHS.

#### Survey of American Indians and Alaska Natives (SAIAN)

The 1987 SAIAN, which was developed and conducted by 'the Agency for Health Care Policy and Research (AHCPR) of the U.S. PHS, included many components relevant to the California survey. The SAIAN was designed to produce **statistically unbiased** estimates that were representative of the civilian population living on or near reservations and eligible for the IHS. The survey used a multi-stage probability sample design to identify almost 2,000 families, representing 6,557 civilian non-institutionalized persons eligible for IHS care. The SAIAN was conducted as a companion to a larger national survey, the 1987 NMES, which was designed to provide estimates representative of the total civilian non-institutionalized population of the U. S.

Both surveys collected information on health status, health care utilization, and health expenditures. In particular, the Access to Care Supplement to these surveys contained specific questions relevant to the legislative mandate for this report. The supplement was developed from prior surveys administered by the National Center for Health Services Research and Health Care Technology (AHCPR's predecessor) in 1977 and 1980 and was extensively piloted and validated with American Indian respondents.<sup>17</sup> Several supplements were self-administered, but the majority of the surveys were administered by trained interviewers. Results from the NMES and SAIAN Access to Care Supplement have recently become available, and were used whenever possible for comparison in this report.<sup>5,12,30</sup>

#### Population Assessed

There is no current list of California Indians who are not members of a federally recognized tribe. However, the Tribal Health Programs' registration information maintained by the California-Area IHS since 1987, includes information on tribal membership and codes for NRICA. The classification system used by IHS was changed in 1988, and deserves a short discussion.

Prior to 1988, Indians were registered by either their tribe of affiliation or tribe of membership. Because of increasing concerns over eligibility issues, IHS began a nationwide effort to register all their patients by the tribe of enrollment. On August 23, 1988, the Director, IHS nationally issued a directive dictating that documentation of enrollment in a federally recognized tribe would determine eligibility for services as of October 1, 1988. The Federal Reaister of December 29, 1988, listed tribes that were federally recognized.

Before 1988, individuals in California who were considered American Indians but not members of a federally recognized tribe of California, i.e., NRICA, might be coded by the Tribal Health Facility according to the tribe of affiliation or as "000" (non-Indian). A memorandum dated September 29, 1988, directed the clinics to change the code for these Indians to "997 - Indian non-tribal member" (Appendix 6).

The Director, California Area IHS in conjunction with an advisory board, modified the classification system to better define NRICA who were eligible for IHS-funded services.' The codes and definitions are listed in Table 80. If individuals live on or hold an interest in trust land or Indian allotments, they were to be assigned a code of 740. If they did not fit into code 740, but had received money from the distribution of California Indian Judgement monies in 1974, they were to be assigned code 741. If they did not fit into either category, but could verify that they were descendants of a California Indian who was alive in 1852 and that they were considered to be Indian by the Indian community, they were to be assigned a code of 742 (Appendix 7).

The Tribal Health Clinics have attempted to update their registers utilizing these new codes. As of November 1990, only 17% of the registered users in California had old codes. However, the rate of patients with old codes varied by clinic from less than 0.1% to over 50% in one large clinic (14,000 registered clients). In some clinics, the presence of old codes indicated an inactive patient who had not returned and thus had not had the registration updated. Old codes could also be found in clinics which had been lax in updating the registration information. Also, some of the clinics reportedly updated registrations into the new coding system based on information in their files, but did not confirm the information with the patient.

The IHS classification system for NRICA was used as the sampling frame for this assessment. Individuals registered under the 740, 741, 742, or 997 code in the IHS clinic registration system were included. It is important to note that these selection criteria do not include Indians who might be eligible, but have not registered at a California Tribal Health Program in the last 4 years. Non-federally recognized Indians registered only at urban

Indian health programs or registered under the code of "000" are also not included. While this choice of criteria does not include all NRICA, it does identify the population of greatest interest for this report: NRICA who utilize the California Tribal Health Programs for some portion of their health care. Further study to gather information about health status and access to care for non-federally recognized California Indians who are not currently clinic users would be a much more ambitious and expensive undertaking.

A random sample of adults 18 years and older were selected from patients who had registered as codes 740, 741, 742, and 997 on the IHS registration system in March 1991. The sample size (n = 640 for women and n = 640 for men) was selected, based on an estimated 60% response rate, to yield estimates of access measures that were accurate within  $\pm 5\%$ . Individuals registered at more than one clinic were assigned to the clinic closest to their home address.

### **Methodology**

Information was collected on current insurance status, current use of Tribal Health Programs and other providers, and financial and other barriers to receipt of care. Most important was information on the availability and accessibility of alternative sources of health care if the Tribal Health Programs were no longer available. Table 81 outlines the SAIAN sources for the California instrument (see Appendix 8). The majority of questions in California were taken from the Access to Care Supplement with minor modifications. Approval of the project was obtained from the California Tribal Health Council, the California Area IHS Research Committee and Institutional Review Board, and the INS National Institutional Review Board (Appendix 9). Overall coordination of the assessment, including interviewer training and tracking, was undertaken by the California Rural Indian Health Board and the California State Indian Health Program with the cooperation of participating California Urban Health Programs.

California Tribal Health Programs which were not able to contact at least 85% of the sample or successfully complete at least 25% of the forms were eliminated from further analysis. If it was discovered that a person had died, that individual was removed from the sample. Completed forms from individuals who did not meet the eligibility criteria were eliminated from further analysis. The age and sex distribution of the respondents was compared to non-respondents, including those who declined to participate. Data from respondents were subject to univariate and bivariate analyses. Technical assistance was provided by IHS in the analysis of the assessment.



## Results

A total of 1,288 forms were to be distributed to the 21 participating Tribal Health Programs based on the selection criteria described above. Of those, 1,120 forms were returned for data entry. After excluding non-participating clinics, 1,013 responses representing 12 clinics were retained for analysis. The nine excluded clinics included one fairly large clinic and eight small clinics.

Table 82 outlines the final disposition of the forms. The completion rate was **40%**, based on 407 completed forms. **Twenty-four** (2.0%) of the patients were reported by the clinic staff to have died, and 38 (4.0%) declined to participate. Despite aggressive efforts of the Tribal Health Programs to locate all the individuals selected, over half of the sample (54%) could not be contacted for participation. Many in this group were noted to have moved to another part of the state or out of state. **Sixty-nine** of the forms (7%) were not returned for analysis and were considered part of the "unable to contact" group.

Table 83 profiles the age and sex distribution of the respondents and non-respondents. Respondents were more likely to be older and female. The Tribal Health Programs contacted 123 respondents (30%) by phone and 284 respondents (70%) in person. No significant differences were noted in the age and sex distributions between these two groups.

Fifty-nine (14%) of the respondents did not meet one of the three criteria of holding trust lands, Indian judgements, or descendant status (Table 80) **and** were eliminated from further analysis. This left 348 respondents who met the three criteria for final analysis. The reported tribal status for these **348** eligible respondents is shown in Table 84. The first column displays the number of individuals who indicated they belonged in that category. The second column shows how the respondents should be categorized according to the IHS system outlined in Table 80.

A surprising finding was that almost half of the respondents that met the criteria also reported that they were enrolled in a federally recognized tribe. The analysis was conducted for the entire eligible group (n = 348) and separately for the group who did not claim to be enrolled in a federally recognized tribe (n = **184**). The results were so similar for the two groups that only the results for the larger group are reported here.

## Characteristics

The demographics of the NRICA population are **shown** in Table 85 compared to those American Indians reported in the SAIAN and the total U.S. population in the NMES. The NRICA and **SAIAN** populations both had fewer elderly individuals **than** the U.S.

population. Both Indian populations were also less likely than the general population to possess education beyond high school, but NRICA were less likely to have college education compared to the SAIAN population. The NRICA household size was more similar to the U.S. population than to the SAIAN population, in which larger family groupings were common. Although the NRICA families were smaller overall than the SAIAN population, they were more likely to have households with children under the age of 16. Over half of the NRICA respondents reported an annual household income under \$12,000; comparable SAIAN or U.S. income data were not available.

Table 86 outlines the health status and utilization and access measures of the NRICA compared to those reported in the SAIAN and NMES. The perceived health status of the California NRICA respondents was similar to that of the SAIAN and U.S. population. Twenty-eight percent of the NRICA sample reported one or more chronic health problems such as diabetes, hypertension, renal disease, or respiratory disease. This contrasts with the 42% and 39% rates of one or more chronic conditions reported in the SAIAN and U.S. populations, respectively. However, this difference is explained by the inclusion of arthritis, rheumatism, and gall bladder disease in the SAIAN and NMES questions regarding chronic disease: the NRICA assessment did not include these conditions in the comparable question.

The travel time and waiting time reported by the NRICA were more similar to those reported for the U.S. population than to those reported for the SAIAN population. Three-quarters of the NRICA respondents reported that they had a usual source of medical care. This rate was lower than for the SAIAN population, in which 91% reported a usual source of care -- generally an IHS facility. The NRICA rate was also lower than the rate for the U.S. population overall, but similar to ethnic minorities such as blacks (77%) and Hispanics (73%) (Personal communication, AHCPR). Over half of the NRICA respondents reported three or more visits to a health care provider in the past year, with an annual average number of visits of 6.5 for the entire group. Thirty-six percent also reported a visit during 1990 by a Community Health Representative, a type of home health aide trained and utilized extensively in the IHS system. Over half of the NRICA respondents did not pay any **out-of-pocket expenses** for health care in 1990, but the average payment for 1990 for the entire group was \$356.

The majority of NRICA respondents held some type of health care coverage, as shown in the first column of Table 87. The most common was Medi-Cal (28%), followed by private insurance (24%) and Medicare (14%). One-third had no form of health insurance.

The majority of individuals with health insurance coverage had used their insurance to pay for medical care in 1990, as shown in the second column. Respondents were also asked **"If you applied, would you be eligible for any of the following health payment sources?"** and presented with the same choices of coverage. Responses to this question are shown in the third column of Table 87. A small increase in coverage was indicated for both private and public insurance, but 29% of the NRICA could not identify any form of coverage for **which** they would be eligible.

Table 88 compares the **NRICA's** current insurance status with that reported in the SAIAN and with various U.S. subgroups from the NMES. Approximately a quarter of both the NRICA and the SAIAN populations had private insurance, which was much lower than any other ethnic subgroup in the U.S., and decidedly lower than the 75% rate of coverage for the U.S. population overall. The NRICA population was also four times as likely to have public insurance and twice as likely to be uninsured compared with the overall U.S. population.

The usual site of health care for those who reported a usual source of health care is detailed in Table 89. Currently, 60% of the NRICA respondent population identified the local Tribal Health Program as their usual source of care, **compared to 24%** reporting a doctor's office or group practice. The remainder reported various sources such as hospital out-patient clinics, emergency rooms, urgent care clinics, and community clinics.

In reporting on alternate resources for health care, 38% of the NRICA group indicated that they would use a Tribal Health Program (Table 89). The major expected shift in care was to county indigent programs, community clinics, and emergency rooms. Seven percent reported that they did not know where they would go. There was no anticipated shift to private physicians in the community. Results regarding travel time, ease of travel, and waiting time related to alternative sites were similar to those for the current sites and were not included in the tables.

**One** third of the NRICA respondents reported at least one unmet health care need during 1990. The most commonly mentioned types of unmet health care needs are listed in Table 90. The most frequently mentioned need was dental care reported by **22%**, followed by other types of supplies (e.g., diabetic supplies, orthopedic supplies, and eyeglasses) reported by **19%**, and prescription medications reported by **18%**. **Factors** in the choice of health care that were named as very important by more than 50% of respondents were: respect and kindness, dental care, affordability, help in obtaining other services, understanding of American Indian ways, and ease in getting to the clinic (Table 91).

## **Populations of Special Concern**

There are a number of subpopulations that are of special concern to policy makers and health care providers. Statistically significant information cannot be derived from the small NRICA sample, but descriptive information on these subgroups is provided here:

**Pregnant women:** Twenty-three women out of the 122 women aged 18 to 45 reported a pregnancy during 1990. Nine of those women reported difficulties in obtaining prenatal care.

**persons with chronic conditions:** More than a quarter of the respondents reported one or more chronic conditions. This group was generally older than the total sample and more likely to report unmet health care needs.

**Elders:** Increasing age was associated with poorer health status and more chronic conditions. Less than 5% of the elderly NRICA lacked health insurance, but half of those on **Medicare** were also on Medi-Cal.

**Uninsured persons:** One-third of the respondents had no health insurance. Compared to those with some form of **health coverage**, they were twice as likely to lack a usual source of medical care (a statistically significant difference). Of those who did report a usual source of care, 70% reported using the Tribal Health Program and the remainder used emergency rooms for their care. Ease of payment for care was an important factor in the choice of health care for the uninsured. Members of the uninsured group were more often young and male, reported fewer chronic conditions, and enjoyed better health status than the total group. Interestingly, none of the uninsured group reported an unmet health care need during 1990.'

**Persons with no usual source of care:** **Approximately** one-fourth reported that they did not have a usual source of care. This group was more likely to be male than the total group, and reported finances as a major barrier to the receipt of health care.

## **Discussion**

The results of this assessment of California NRICA are severely limited in a number of ways. The most obvious limitation is the low response rate, which resulted in a smaller-than-desired sample size. Because of this limitation, one should be very cautious about generalizing the results to the entire NRICA **population**. Informal notes made by the assessment team identified about half of the non-respondents as having moved away from the area or having been incarcerated. These observations are consistent with the finding that non-respondents were more

likely to be young males, who tend to **follow** seasonal work and to be very mobile. Thus, it is difficult for a clinic to maintain a current address for these clinic users. The remainder of the non-respondents could not be located for interviewing, despite three attempts by the clinic staff. Many of these latter individuals had post office boxes and did not have a phone. On the other hand, the group successfully contacted may accurately represent active users of the Tribal Health Programs; therefore, the low response rate may not seriously impair generalizability of the study findings to the active user population of **non-federally** recognized California Indians.

**One** half of the individuals currently coded as **non-federally** recognized reported they were enrolled in a federally recognized tribe. Federal recognition is such an important issue for California Indians that self-reported misclassification of this magnitude seems unlikely. However, several members of the Tribal Advisory Committee believe that California Indians often do not understand their complex and often confusing legal standing.. An alternative explanation for this finding is that many of the clinics may have re-coded the records independently without consulting the individuals for confirmation. A third explanation is that some of the NRICA may have recently won Federal recognition, but had not yet been to the clinic to change their registration status.

The possible misclassification of NRICA as **"enrolled"** discovered in this assessment would have some important policy ramifications. If these individuals are indeed enrolled in a **federally** recognized tribe, the actual number of NRICA is much smaller than what is currently believed using the **IHS** registration system. Validation of tribal enrollment for these respondents has been requested from the Bureau of Indian Affairs. The California Area Office will continue **to, investigate** the confusion about federally recognized status. If the original assumption is correct that, none of the sample are federally recognized, these findings imply the need for an educational campaign in Indian communities that would lead to more accurate IHS registration files.

Despite its limitations, this assessment has a number of important findings. The NRICA population has a similar age distribution and health status but less college education compared with American Indians and Alaska Natives living on and near reservations. Their annual family income level is low, as is the rate of health care coverage. **The NRICA** possess the **lowest** rate of private health care coverage when compared with American Indians and other race/ethnic groups in the U.S.

Over one-third report unmet health care 'needs, especially for dental care, diabetic and orthopedic supplies (such as special shoes to prevent amputations), and prescription medicines.

The assessment indicates that the NRICA population of California depends heavily upon the Tribal Health Programs for their health care, with 60% reporting that as their usual source of care. That dependence is even greater for the uninsured. However, the Tribal Health Program was not viewed as the place of last resort for care by the NRICA. Over half of the individuals with private health insurance or Medicare, who presumably could have chosen the private practice community, indicated that the tribal health program was their usual source of care. Respondents indicated that having staff who are sensitive to American Indian ways is important in the choice of health care, and this feature was rated more important than financial considerations.

The alternative health care sites for this population are strongly influenced by the NRICA's financial resources and health care coverage. Only one fourth had private insurance, which would provide access to alternate sites in the private practice community. Almost half of the NRICA had some form of public insurance such as Medi-Cal; and a third had no insurance coverage at all, making their options severely limited. Reportedly few providers are willing to take new Medi-Cal and Medicare patients. The other alternatives these individuals were able to identify such as community health clinics, county health programs, and emergency departments, are already serving at or beyond capacity and are threatened by cutbacks and closures. Thus, accessible and acceptable alternative providers for this population outside the Tribal Health Programs seem to be very limited.

## CONCLUSIONS AND RECOMMENDATIONS

### Overall Observations

In spite of many limitations and data quality issues, consistent findings emerged from all of the sources of information used in this study. The review of secondary data and the results of the assessment of non-federally recognized Indians of California demonstrate convincingly that unmet need for a variety of health services exists among California's Indian population, and that any restrictions in eligibility or inadequate levels of funding for the currently eligible IHS population could have serious adverse health consequences. The consistency of findings provides strong evidence for the following general observations, illustrated by salient examples:

1. By many measures, the health status of California Indians is very similar to that of American Indians' and Alaska Natives served by IHS in the other reservation States, and health risks

are much greater compared with the general population in California.

- o Only 49.3% of deaths to American Indian-women and 38.8% of deaths to American Indian men in **1986-88** occurred at the age of 65 or older, compared to 76.6% and 60.8% of deaths to women and men of all races.
- o The 10 leading causes of death for American Indians in California in 1986-88 were the same as the causes for American Indians in the U.S. Within California, a greater proportion of Indian than total deaths were caused by accidents, chronic liver disease and cirrhosis, homicide, and suicide.

2. The maternal and child health risk profile for California Indians presents a disturbing picture that demands public health action.

- o Access to prenatal care is worse for American Indian women, especially in California counties in which the Indian population is not likely to be federally recognized. Indian women are less likely to enter care early and more likely not to receive any care.
- o The rates of low birthweight and infant mortality are higher for American Indians than for the total population and any other subgroup -except blacks in California. Indian infant mortality is especially high in the postneonatal period, when the predominant causes are environmental and a high proportion of deaths should be preventable.

3. The health status of non-federally recognized Indians of California, based on information about counties in which American Indians are primarily not federally recognized, is not better than that of federally **recognized** Indians. Some findings suggest that the health status of the non-federally **recognized** may be worse and deserves special attention. No evidence exists that resources currently available outside of IHS are adequate to meet urgent needs for care.

- o In the primarily non-federally recognized counties of California, nearly a quarter of deaths to Indian boys and **men** are caused by accidents.
- o Causes of hospitalization for California Indians in primarily non-federally recognized counties indicate problems with access to prenatal and other preventive care, substance abuse, and diabetes, as well as low socioeconomic status.

4. American Indians in California generally lack private health insurance coverage and rely heavily on Medi-Cal.

- o Prenatal care for Indian births compared to total births is much more likely to be covered by Medi-Cal (45.5% vs. 27.6%) and less likely to be covered by private insurance (39.7% vs. 52.7%). Two-thirds of Indian births in the primarily non-federally recognized counties are covered by Medi-Cal.
- o Indian hospitalizations are only half as likely as total discharges in California to be covered by Medicare, and nearly twice as likely to be reimbursed by Medi-Cal or to be uninsured.
- o Only 24% of non-federally recognized Indians registered in the Tribal Health Programs have private health insurance.

5. Tribally-operated health programs have central importance not only because of the lack of adequate alternative resources, but also because of the preference for Indian-specific and culturally competent services.

- o Utilization of California's Tribal Health Programs has been increasing. The unduplicated registration count of active registered patients was 39,000 in FY 1988, 44,000 in FY 1989 (12.8% increase over previous year), and 52,000 in FY 1990 (18.2% increase over previous year).
- o In the assessment of non-federally recognized **Indians of** California, over half of the individuals with private health insurance or Medicare chose to use a Tribal Health Program as their usual source of care.

6. Some findings deserve immediate attention **because of** their overwhelming impact on California American Indian health status and the evidence they provide **of** serious inequities.

- o About 40% of all American Indian deaths in California are attributable to cigarette smoking, compared to 12.4% and 17.8% of deaths to women and men, respectively, in the total population. About one third of deaths to Indian women (vs. 4.3% for women of all races) and over 40% of deaths to Indian men (vs. 8.4% for men of all races) are **alcohol-**related.

#### Data and Research Needs

This study documents the need for further research to improve the **quality** of data on California's American Indian' and Alaska Native population (both federally recognized and non-federally recognized), to assess their health status more accurately and routinely monitor their health needs, and to evaluate, the



routinely monitor their health needs, and to evaluate the effectiveness and appropriateness of specific interventions and modes of health care service delivery. Additional studies will be necessary to obtain certain information directly from the Indian population, but further investigations utilizing secondary data sources could contribute useful knowledge for health promotion and disease prevention. One example is the possibility of linking the IHS patient registration files with other databases, such as death certificates to validate and expand the knowledge of mortality in the Indian community.

Other research on the availability, accessibility, and acceptability of alternative resources is needed to assess the potential impact of IHS eligibility changes. Barriers to access in specific geographic areas must be evaluated in the context of current fiscal conditions and policy trends. The changing capacity of the California health care system defines options for the **State's** citizens, depending on their location, needs, and resources. Twenty-one percent of California's non-elderly population lack public or private health insurance, and this crisis in health coverage coincides with a severe State budgetary crisis.

### **Impact of Realignment**

The State of California is currently facing an estimated \$14 billion budget deficit. As a result, legislation (AB 1288) has been passed that establishes a **new system** for the administration and funding of indigent health care and county health services programs. The process to establish this new system involved the repeal of current State statutes and a transfer of funding sources from the State general fund to newly established sources, specifically increases in selected taxes and fees. These new revenue sources will go directly to the counties via the newly established "Local Revenue Fund." Small counties (less than 40,000 population) will be able to contract back with the State. This process has been identified as "realignment."

As of this writing, there is no accurate way to assess the impact of these major changes on how the medically indigent population of California will benefit or suffer. It is likely, however, that the implementation of these major changes in the way local health care services will be funded and administered will take at least a year to accomplish and during this time may adversely impact the medically indigent population. Legislation has been passed (part of AB 1288) and signed by the governor (Chapter 89, statutes of 1991) to evaluate the implementation and impact of realignment. This report will be part of the **"County Health Services Legislative Report"** and is not **expected** until 1992.

### For the Future

That report on the impact of the realignment policy will give one indication of how the State's deficit is affecting county health systems. The current fiscal climate implies decreased availability of alternative resources for people who depend on services supported by the IHS. Various proposals are currently being fielded to create universal health coverage in California, but the timing and nature of future programs are uncertain. The immediate need to maintain coverage for non-federally recognized California Indians is urgent. Finally, financial coverage alone will not ensure appropriate and acceptable care for the Indian population. Recent expansion of clinical services in California's tribally-operated programs has led to a higher level of utilization, indicating both unmet need and a desire **to obtain** services in an Indian-specific environment.

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Table 1

AMERICAN INDIAN/ALASKA NATIVE POPULATION, INCLUDING HISPANICS, BY TYPE OF COUNTY(1)  
CALIFORNIA, 1980 AND 1990

TYPE OF COUNTY	Number	1980		Number	1990		Percent Gain 1980-90
		Percent of CA AI/AN Population	Percent of All Races Population		Percent of CA <b>AI/AN</b> Population	Percent of All Races Population	
All 58	201,360	100.0	<b>0.9</b>	242,164	100.0	0.8	20.3
Indian	77,066	38.3	1.2	107,825	44.5	1.2	39.9
Non-Indian	124,294	61.7	0.7	134,339	55.5	0.6	8.1
Federally Recognized	40,207	20.0	1.1	54,625	22.6	<b>1.0</b>	35.9
Non-Federally Recognized	17,054	8.5	1.2	26,264	10.8	1.4	54.0
Indisputably Rural	4,572	2.3	3.2	<b>6,255</b>	2.6	3.7	36.8
Indisputably Urban	86,897	43.2	0.1	93,318	<b>38.5</b>	<b>0.6</b>	7.4
IHS Contract Clinic Accessible to 80% AI/AN	46,132	22.9	1.3	64,038	26.4	1.3	38.8
<b>IHS</b> Contract Clinic Accessible to 50% AI/AN	19,496	9.1	1.1	26,714	11.0	1.0	37.0
IHS Contract Clinic Not Accessible to AI/AN	11,292	5.6	1.5	16,792	6.9	1.7	48.7

(1) See Appendix 2 for definitions of county groups.

Source: U.S. Bureau of the Census.



Table 2

AMERICAN INDIAN/ALASKA NATIVE POPULATION, EXCLUDING HISPANICS, BY TYPE OF COUNTY(1)  
CALIFORNIA, 1990

TYPE OF COUNTY	Number	Percent of AI/AN Population	Percent of All Races Population
All 58	184,065	100.0	0.6
Indian	87,007	47.3	1.0
Non-Indian	97,058	52.7	0.5
Federally Recognized	42,482	23.1	0.8
Non-Federally Recognized	21,827	11.9	1.2
Indisputably Rural	5,805	3.2	3.4
Indisputably Urban	65,403	35.5	0.4
IHS Contract Clinic Accessible to 80% AI/AN	52,406	28.5	1.0
IHS Contract Clinic Accessible to 50% AI/AN	19,724	10.7	0.7
IHS Contract Clinic Not Accessible to AI/AN	14,620	7.9	1.5

(1) See Appendix 2 for definitions of county groups.

Source: U.S. Bureau of the Census.

Table 3

SOCIAL AND ECONOMIC CHARACTERISTICS  
AMERICAN INDIANS/ALASKA NATIVES AND ALL RACES  
CALIFORNIA AND UNITED STATES, 1980

	American Indian/ Alaska Native California	All Races California	American Indian/ Alaska Native 33 Reservation States(1)	All Races U.S.
<b>AGE</b>				
Median Age (in years)	25.8	30.0	22.6	30.0
<b>SEX</b>				
Percent Female	51.0	50.7	50.7	51.4
Percent Male	49.0	49.3	49.3	46.6
<b>FAMILY SIZE</b>				
Mean Number of Persons per Family	3.5	3 . 2	4.6	3.8
<b>INCOME</b>				
Income in 1979 (in dollars)				
Median Family Income	16,548	21,537	13,700	19,900
Mean Family Income	19,621	25,540	16,500	23,100
Per Capita Income	6,030	8,295	3,600	7,300
Percent of All Persons Below Poverty Level	17.9	11.1	28.2	12.4
<b>EDUCATION(2)</b>				
Percent Completed Four Years of High School	65.7	73.5	55.4	66.5
Percent Completed Four or More Years of College	9.8	19.6	7.4	16.2
<b>EMPLOYMENT(3)</b>				
Percent in Labor Force	63.7	64.3	57.8	62.0
Percent of Females	52.7	52.6	47.7	49.9
Percent of Males	75.4	76.6	68.6	75.1
Percent of Civilian Labor Force Unemployed	11.8	6.5	13.3	6.5
Percent of Females	10.8	6.5	11.9	6.5
Percent of Males	12.6	6.6	14.5	6.5

(1) There were 28 Reservation States in 1980, 31 in 1983, 32 in 1984, and 33 in 1989.

(2) Persons 25 years old and over.

(3) Persons 16 years old and over.

Source: U.S. Bureau of the Census.

Chart 1

SOCIAL AND ECONOMIC CHARACTERISTICS  
AMERICAN INDIANS/ALASKA NATIVES AND ALL RACES  
'CALIFORNIA-AND UNITED STATES, 1980

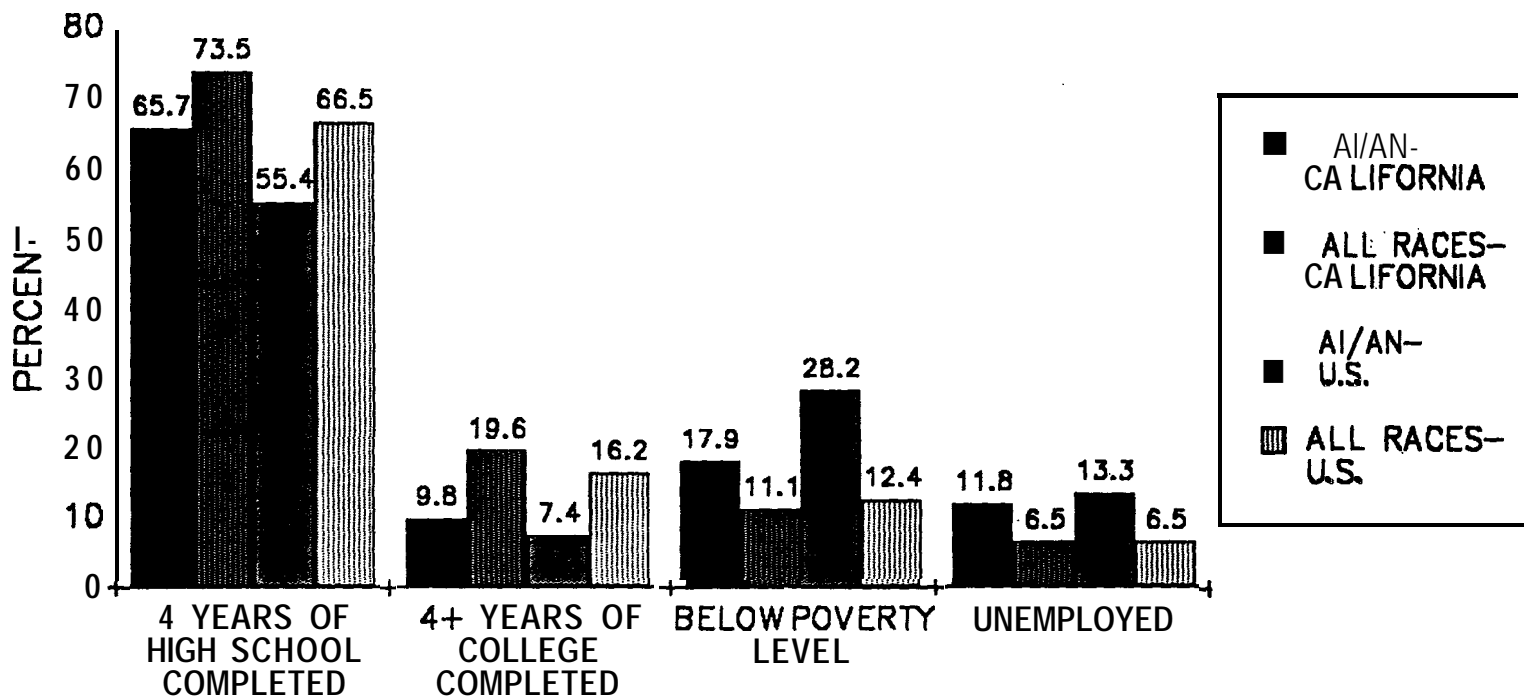


Table 4

RESIDENT LIVE BIRTHS BY RACE/ETHNICITY(1)  
CALIFORNIA, 1986-88

RACE/ETHNICITY	NUMBER	PERCENT
TOTAL	<b>1,517,989</b>	<b>100.0(2)</b>
American Indian/Alaska Native (including Hispanics)	16,935	1.1
Asian/Pacific Islander(3)	150,831	9.9
<b>Black(3)</b>	143,859	9.5
White(3)	696,281	45.9
Hispanic (excluding AI/AN)	502,455	33.1
Other/Unknown	7,628	0.5

(1) AI/AN category includes infants with mother and/or father recorded on birth certificate as AI/AN. **Race/Ethnicity** of all **other** categories defined according to National Center for Health Statistics (NCHS) algorithm (see Appendices 4-A and 4-B). Using NCHS algorithm, number of AI/AN births is reduced by 4.9% to 16,102.

(2) Percentages may not sum to 100.0% due to independent rounding.

(3) Non-Hispanic.

Source: State of California, Department of Health Services, Health Data and Statistics Branch.

Chart 2  
RESIDENT LIVE BIRTHS BY RACE/ETHNICITY  
CALIFORNIA, 1986-88

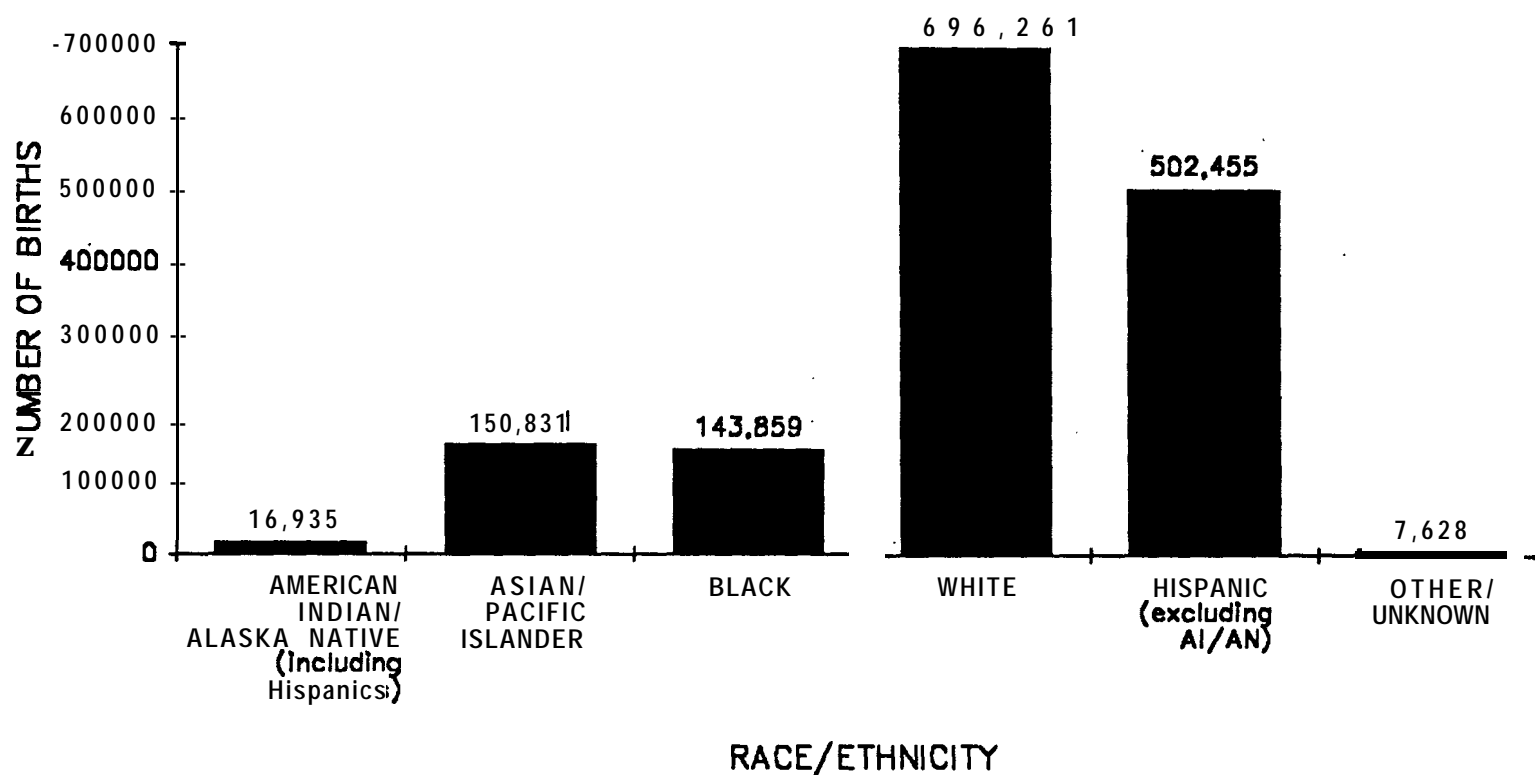


Table 5

RESIDENT LIVE BIRTHS BY TYPE OF COUNTY(1)  
 AMERICAN INDIANS/ALASKA NATIVES(2)  
 CALIFORNIA, 1986-88

TYPE OF COUNTY	NUMBER	PERCENT OF TOTAL AMERICAN INDIAN/ ALASKA NATIVE BIRTHS
All 58	16,935	<b>100.0</b>
Indian	8,681	51.3
Non-Indian	8,254	48.7
Federally Recognized	5,130	30.3
Non-Federally Recognized	1,596	<b>9.4</b>
Indisputably Rural	455	2.7
Indisputably Urban	6,906	40.8
IHS Contract Clinic Accessible to 80% AI/AN	5,770	34.1
IHS Contract Clinic Accessible to 50% AI/AN	<b>1,808</b>	10.7
IHS Contract Clinic Not Accessible to AI/AN	1,081	6.4

(1) See Appendix 2 for definitions of county groups.

(2) Mother and/or father recorded on birth certificate as AI/AN, including Hispanics.

Source: State of California, Department of Health Services, Health Data and Statistics Branch.

Chart 3

RESIDENT LIVE BIRTHS BY TYPE OF COUNTY  
AMERICAN INDIANS/ALASKA NATIVES  
CALIFORNIA, 1986-88

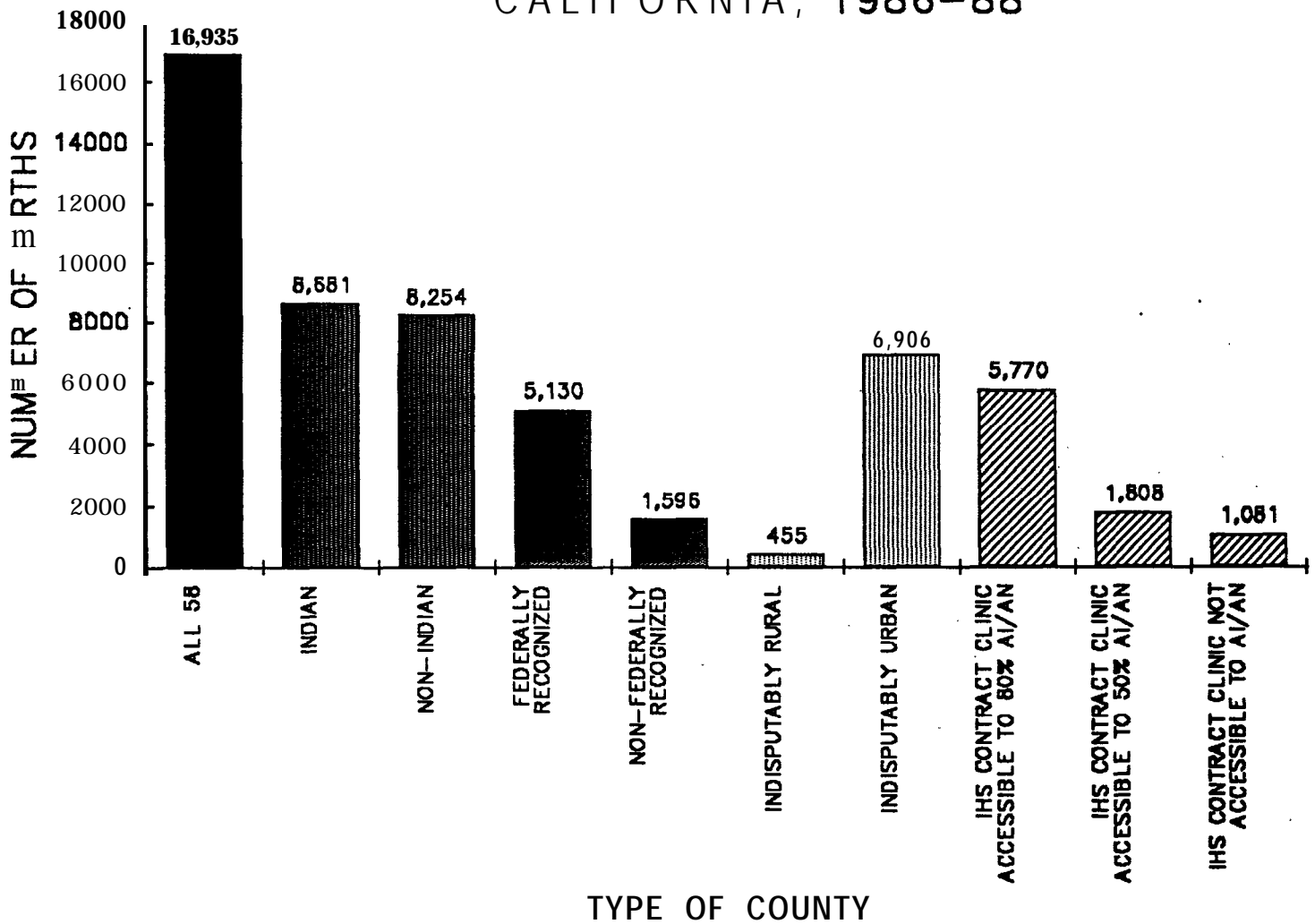


Table 6

RESIDENT LIVE BIRTHS BY MOTHER'S AGE  
AMERICAN INDIANS/ALASKA NATIVES(1) AND ALL RACES  
CALIFORNIA, 1986-88

MOTHER'S AGE	AMERICAN INDIAN/ ALASKA NATIVE		ALL RACES	
	NUMBER	PERCENT	NUMBER	PERCENT
ALL AGES	16,935	<b>100.0 (2)</b>	<b>1,517,989</b>	100.0
<b>&lt;15</b>	56	0.3	2,972	0.2
15-19	2779	16.4	163,209	10.8
20-24	5,503	32.5	410,466	27.0
25-29	4,865	<b>28.7</b>	476,794	31.4
30-34	2,643	15.6	321,730	21.2
35-39	<b>911</b>	5.4	121,980	8.0
<b>40+</b>	170	1.0	20,320	1.3
Unknown	8	0.0	518	0.0

(1) Mother and/or father recorded on birth certificate as AI/AN, including Hispanics.

(2) Percentages may not sum to 100.0% due to independent rounding.

Source: State of California,. Department of Health Services, Health Data and Statistics Branch.



**Chart 4**

RESIDENT LIVE BIRTHS BY MOTHER'S AGE  
AMERICAN INDIANS/ALASKA NATIVES AND ALL RACES  
CALIFORNIA, 1986-88

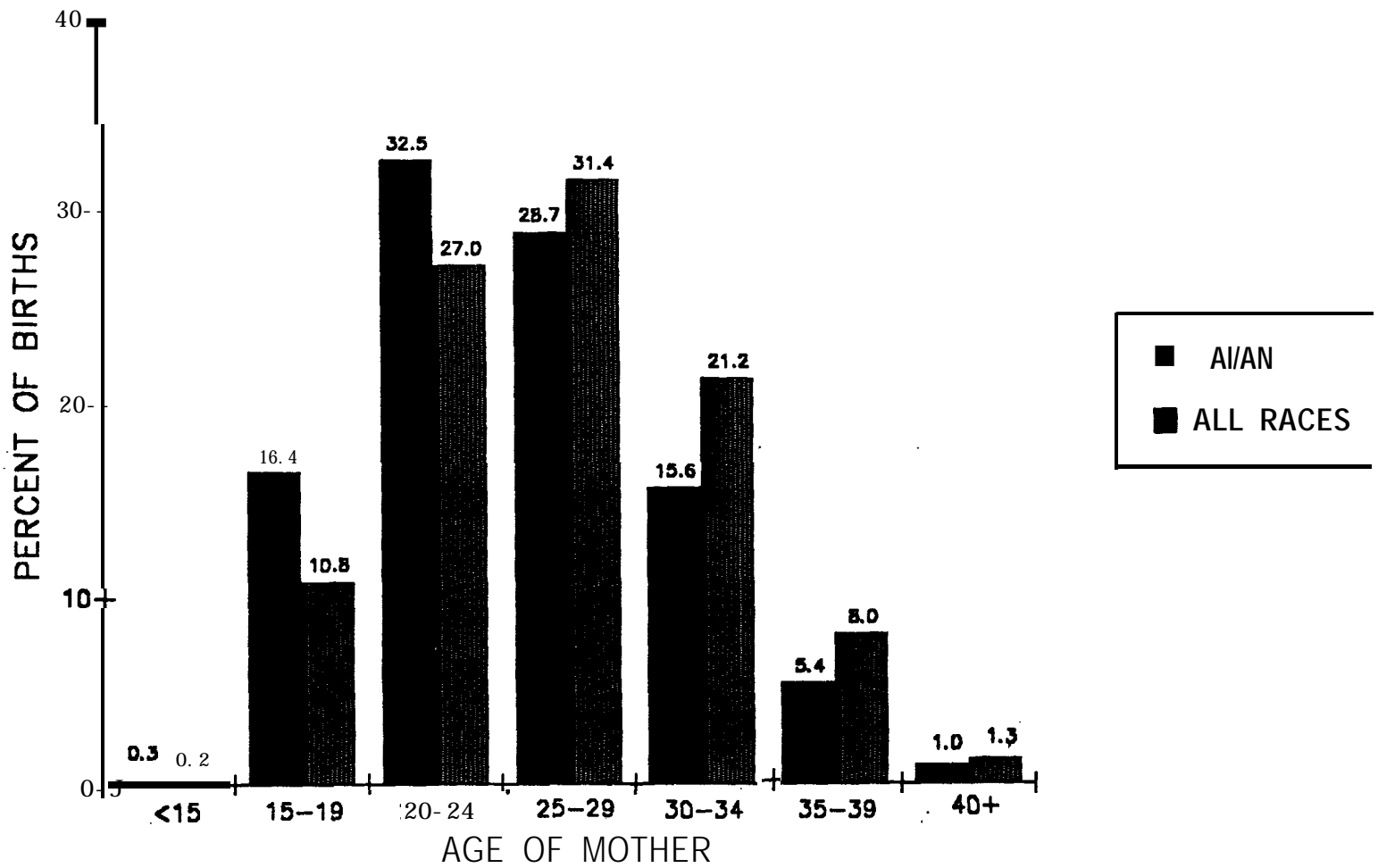


Table 7

RESIDENT LIVE BIRTHS TO MOTHERS UNDER 20 YEARS OF AGE  
 BY TYPE OF COUNTY(1)  
 AMERICAN INDIANS/ALASKA NATIVES(2) AND ALL RACES  
 CALIFORNIA, 1986-88

TYPE OF COUNTY	AMERICAN INDIAN/ ALASKA NATIVE		ALL RACES	
	NUMBER	PERCENT	NUMBER	PERCENT
All 58	2,835	16.7	166,181	10.9
Indian	1,539	17.7	50,980	<b>12.0</b>
Non-Indian	1,296	15.7	115,201	10.5
Federally Recognized	794	15.5	29,837	11.4
Non-Federally Recognized	330	20.7	11,824	13.2
Indisputably Rural	100	22.0	731	<b>11.8</b>
Indisputably Urban	937	13.6	87,058	<b>10.4</b>
IHS Contract Clinic Accessible to 80% AI/AN	943	16.3	27,138	11.2
IHS Contract Clinic Accessible to 50% AI/AN	361	20.0	<b>17,859</b>	13.0
IHS Contract Clinic Not Accessible to AI/AN	230	21.3	<b>5,976</b>	13.1

(1) See Appendix 2 for definitions of county groups.

(2) Mother and/or father recorded on birth certificate as AI/AN, including Hispanics.

Source: State of California, Department of Health Services, Health Data and Statistics Branch.

Chart 5

RESIDENT LIVE BIRTHS TO MOTHERS UNDER 20 YEARS OF AGE  
BY TYPE OF COUNTY  
AMERICAN INDIANS/ALASKA NATIVES AND ALL RACES  
CALIFORNIA, 1986-88

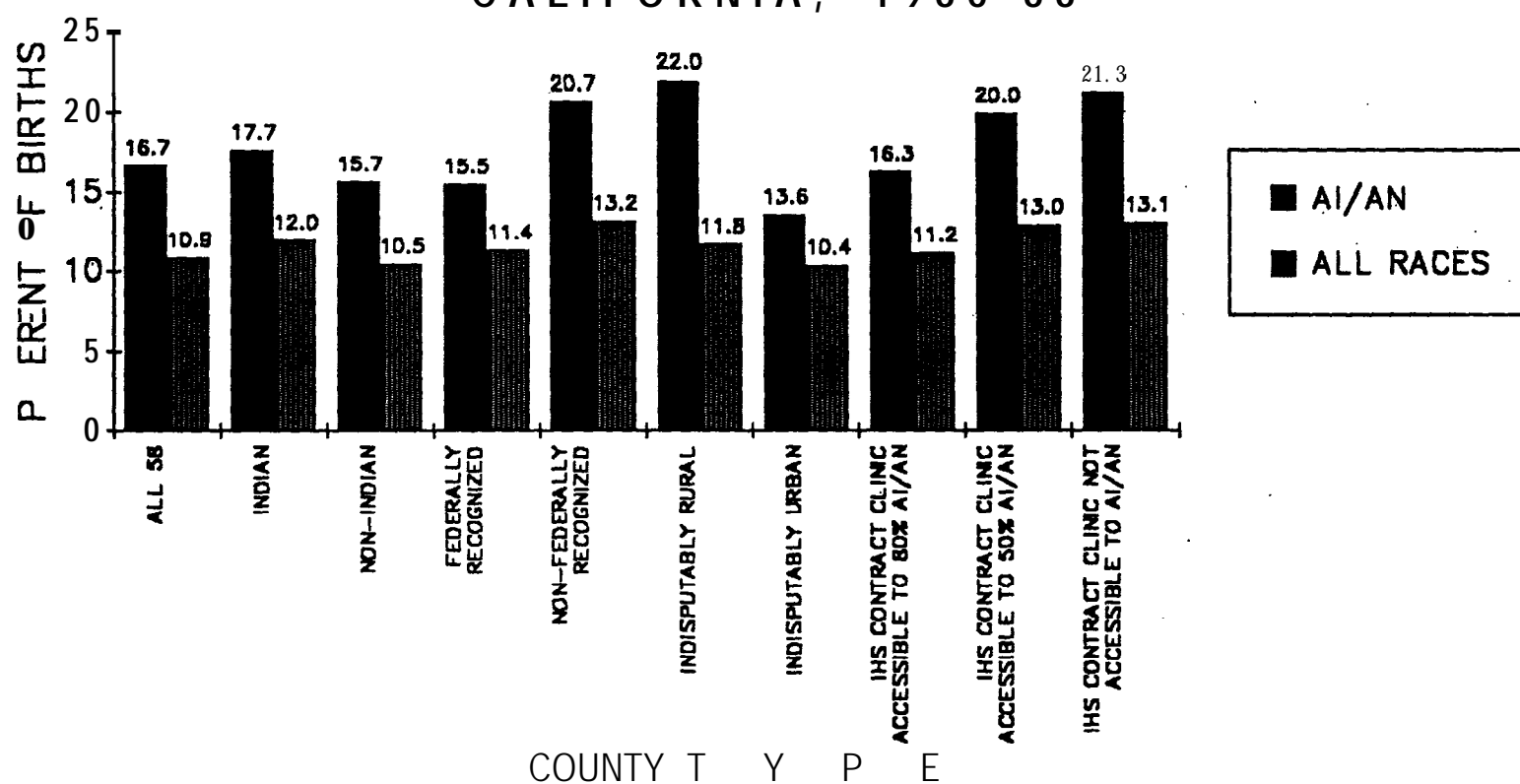


Table 8

RESIDENT LIVE BIRTHS TO MOTHERS UNDER 18 YEARS OF AGE  
 BY TYPE OF COUNTY(1)  
 AMERICAN INDIANS/ALASKA NATIVES(2) AND ALL RACES  
 CALIFORNIA, 1986-88

TYPE OF COUNTY	AMERICAN INDIAN/ ALASKA NATIVE		ALL RACES	
	NUMBER	PERCENT	NUMBER	PERCENT
All 58	1,125	6 . 6	61,374	4.0
Indian	<b>639</b>	7.4	18,437	4.3
Non-Indian	486	5.9	42,937	3.9
Federally Recognized	305	5.9	10,497	4.0
Non-Federally Recognized	152	9.5	4,501	5.0
Indisputably Rural	44	9.7	247	<b>4.0</b>
indisputably Urban	337	4.9	32,480	3.9
IHS Contract Clinic Accessible to 80% AI/AN	372	6.4	9,591	4.0
IHS Contract Clinic Accessible to 50% AI/AN	155	8.6	6,707	4.9
IHS Contract Clinic Not Accessible to AI/AN	110	10.2	2,136	4.7

(1) See Appendix 2 for definitions of county groups.

(2) Mother and/or father recorded on birth certificate as AI/AN, including Hispanics.

Source: State of California, Department of Health Services, Health Data and Statistics Branch.

Chart 6

RESIDENT LIVE BIRTHS TO MOTHERS UNDER 18 YEARS OF AGE  
BY TYPE OF COUNTY  
AMERICAN INDIANS/ALASKA NATIVES AND ALL. RACES  
CALIFORNIA, 1986-88

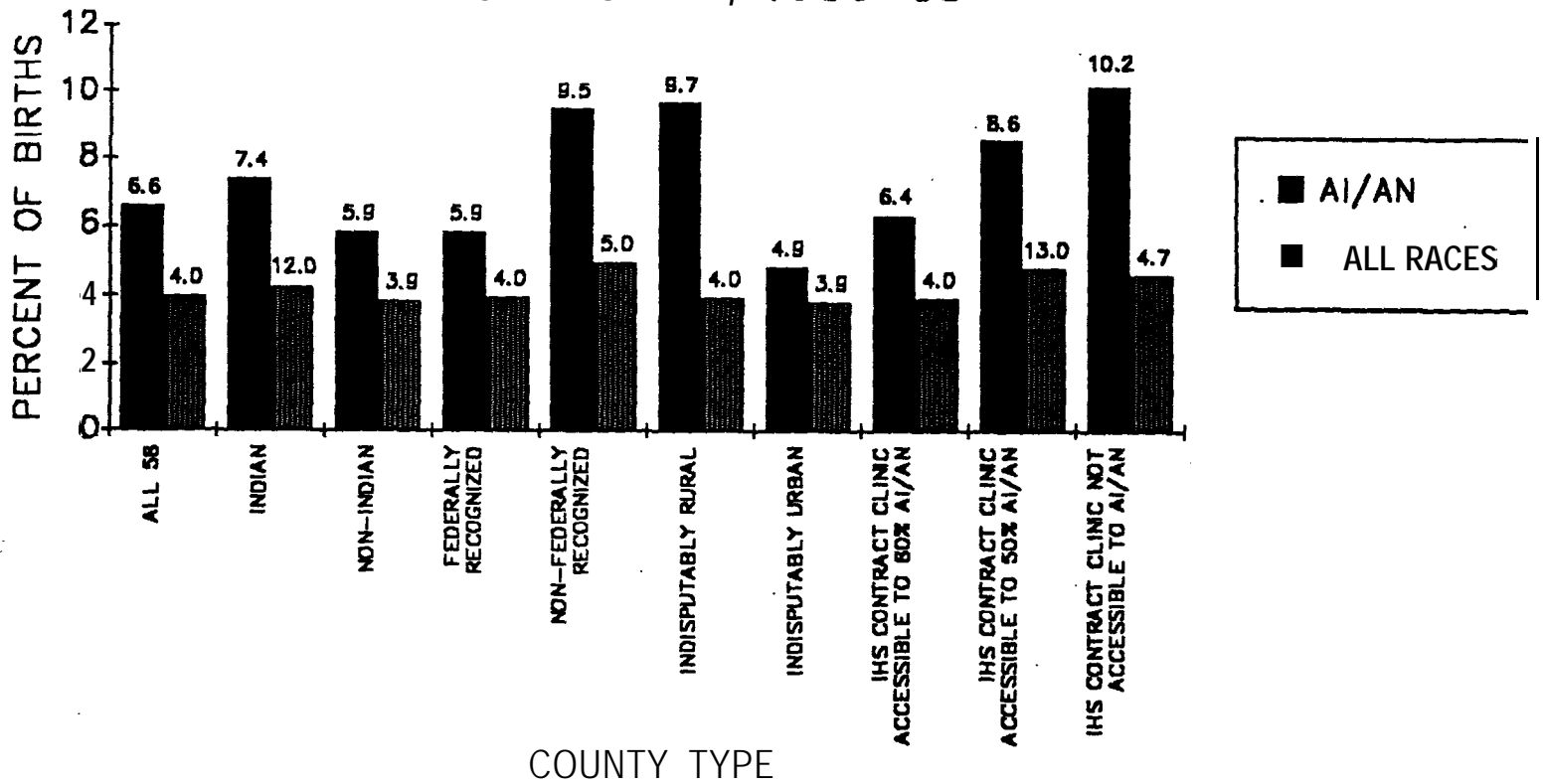


Table 9

COMPLETED YEARS OF MOTHER'S EDUCATION  
RESIDENT LIVE BIRTHS BY TYPE OF COUNTY(1)  
AMERICAN INDIANS/ALASKA **NATIVES(2)** AND ALL RACES  
CALIFORNIA, 1989

		YEARS OF EDUCATION					
TYPE OF COUNTY		<12	12	13-15	16+	UNKNOWN	TOTAL
All 58							
AI/AN	NUMBER	1,748	2,348	1,133	317	69	5,615
	PERCENT	31.1	41.8	20.2	5.6	1.2	100.0(3)
All Races	NUMBER	179,156	181,849	113,851	86,324	8,128	569,308
	PERCENT	31.5	31.9	20.0	15.2	1.4	100.0
Federally Recognized							
AI/AN	NUMBER	475	691	309	86	17	1,578
	PERCENT	30.1	43.8	19.6	5.4	1.1	100.0
All Races	NUMBER	27,291	38,249	22,730	13,367	1,693	103,330
	PERCENT	26.4	37.0	22.0	12.9	1.6	100.0
Non-Federally Recognized							
AI/AN	NUMBER	255	251	95	-18	3	622
	PERCENT	41.0	40.4	15.3	2.9	0.5	100.0
All Races	NUMBER	11,386	10,488	6,362	3,835	663	32,734
	PERCENT	34.8	32.0	19.4	11.7	2.0	100.0

(1) See Appendix 2 for definitions of county groups.

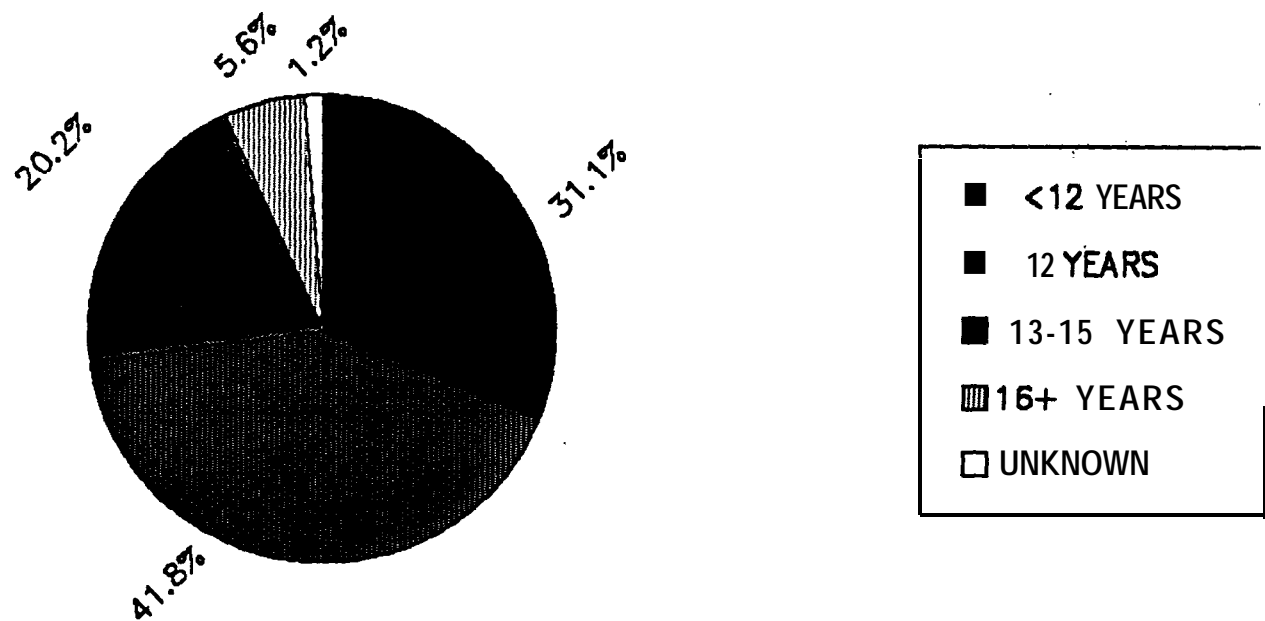
(2) Mother and/or father recorded on birth certificate as AI/AN, including Hispanics.

(3) Percentages may not sum to 100.0% due to independent rounding.

Source: State of California, Department of Health Services, Health Data and Statistics Branch.

Chart 7

COMPLETED YEARS OF MOTHER'S EDUCATION  
RESIDENT LIVE BIRTHS  
AMERICAN INDIANS/ALASKA NATIVES  
ALL 58 COUNTIES  
CALIFORNIA, 1989



**Chart 8**

COMPLETED YEARS OF MOTHER'S EDUCATION  
RESIDENT LIVE BIRTHS  
ALL RACES  
ALL 58 COUNTIES  
CALIFORNIA, 1989

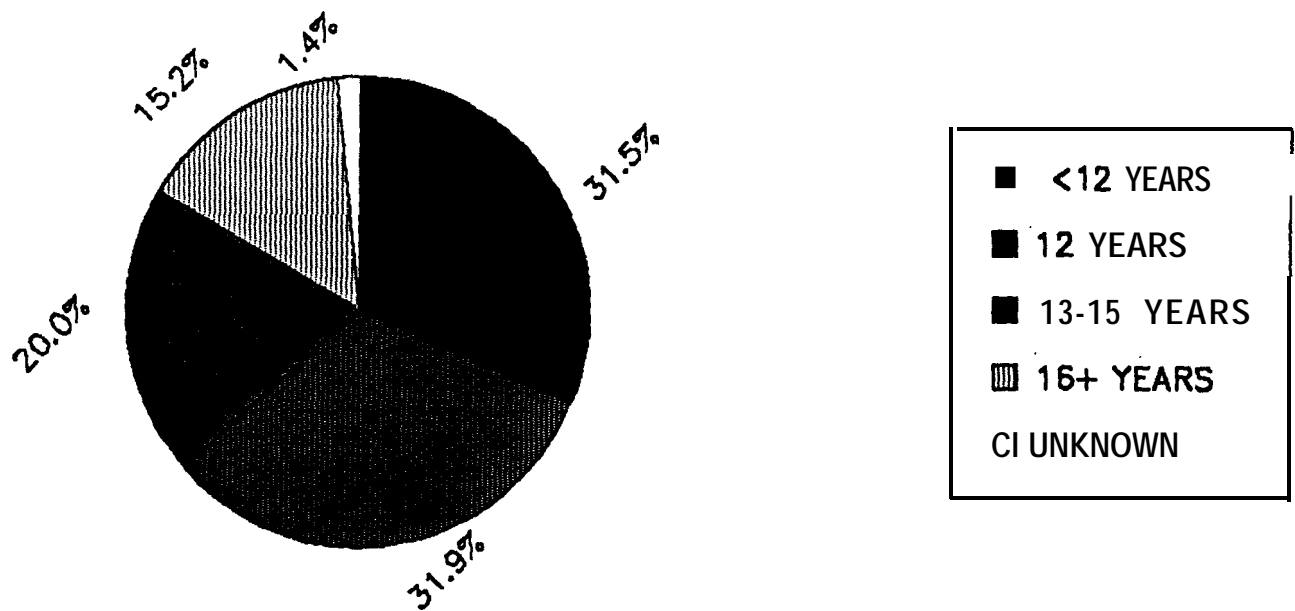




Table 10

RESIDENT LIVE BIRTHS BY BIRTH ORDER  
AMERICAN INDIANS/ALASKA NATIVES(1) AND ALL RACES  
CALIFORNIA AND UNITED STATES, 1986-88

AMERICAN INDIAN/ALASKA NATIVE CALIFORNIA 1986-88			ALL RACES CALIFORNIA 1986-88	
BIRTH ORDER	NUMBER	PERCENT	NUMBER	PERCENT.
TOTAL	1 6 , 9 3 5	100.0(2)	1,517,989	100.0
1st	6,609	39.0	613,645	40.4
2nd	4,932	29.1	474,799	31.3
3rd	2,950	17.4	246,723	16.3
4th	1,388	8.2	102,085	6.7.
5th+	1,009	6.0	76,348	5.0
Unknown	47	0.3	4 , 3 8 9	013

AMERICAN INDIAN/ALASKA NATIVE UNITED STATES 1986-88			ALL RACES UNITED STATES 1987	
BIRTH ORDER	NUMBER	P E R C E N T	NUMBER	PERCENT
TOTAL	127,425	100.0	3,809,394	100.0
1st	42,414	33.3	1,567,678	41.2
2nd	35,903	28.2	1,247,526	32.7
3rd	23,920	18.8	608,204	16.0
4th	12,764	10.0	224,522	5.9
5th+	12,061	9.5	145,456	3.8
Unknown	363	0.2	16,008	0.4

(1) For California, defined as those with mother and/or father recorded on birth certificate as AI/AN, including Hispanics. For U.S., defined according to National Center for Health Statistics algorithm (see Appendix).

(2) Percentages may not sum to 100.0% due to independent rounding.

Source: State of California, Department of Health Services, Health Data and Statistics Branch.  
Indian Health Service, Office of Planning, Evaluation, and Legislation.

**Chart 9**

COMPLETED YEARS OF MOTHER'S EDUCATION  
RESIDENT LIVE BIRTHS  
AMERICAN INDIANS/ALASKA NATIVES  
FEDERALLY RECOGNIZED COUNTIES  
CALIFORNIA, 1989

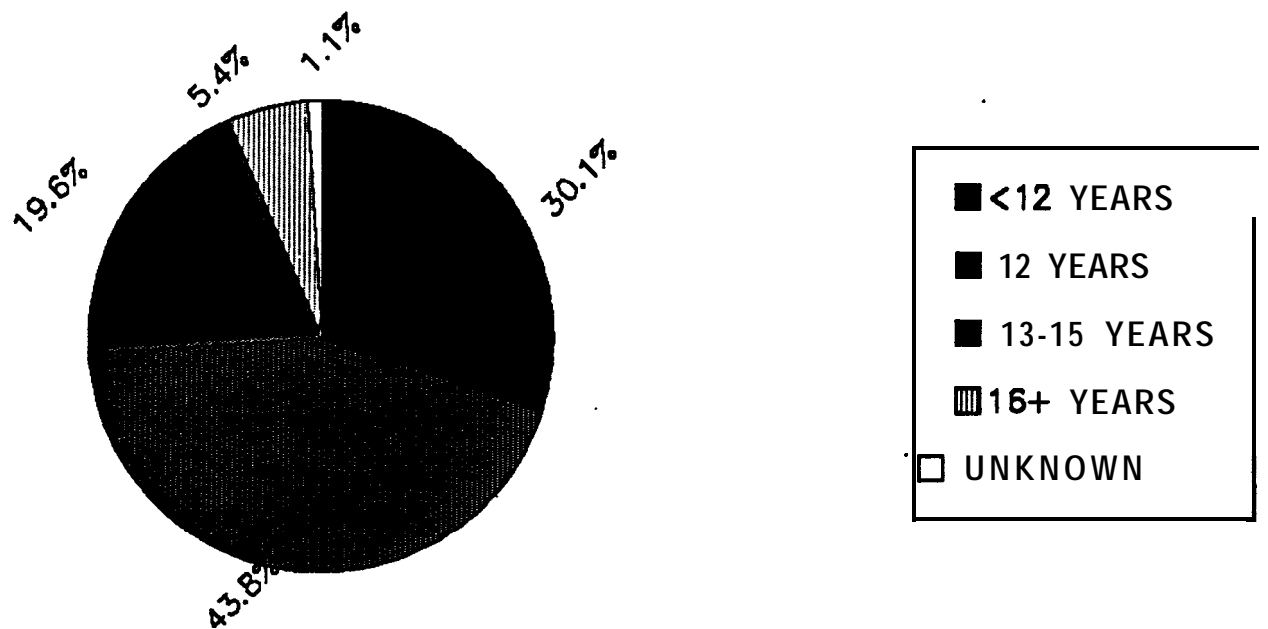


Chart 10

COMPLETED YEARS OF MOTHER'S EDUCATION  
RESIDENT LIVE BIRTHS  
ALL RACES  
FEDERALLY RECOGNIZED COUNTIES  
CALIFORNIA, 1989

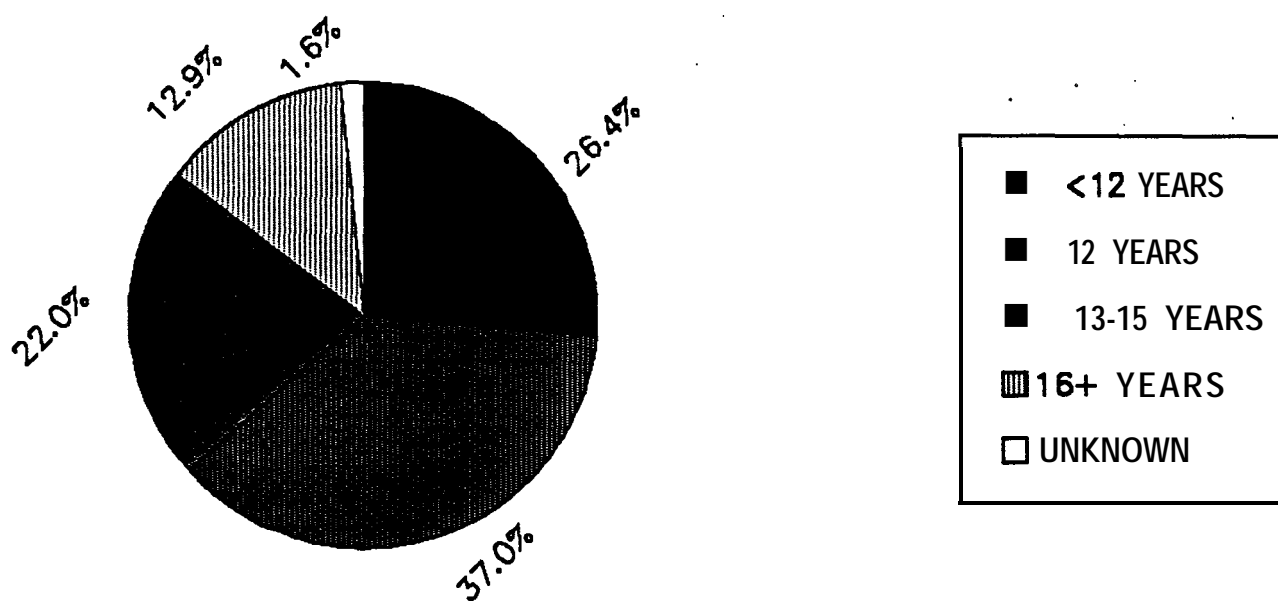


Chart 11

COMPLETED YEARS OF MOTHER'S EDUCATION  
RESIDENT LIVE BIRTHS  
AMERICAN INDIANS/ALASKA NATIVES  
NON-FEDERALLY RECOGNIZED COUNTIES,  
CALIFORNIA, 1989

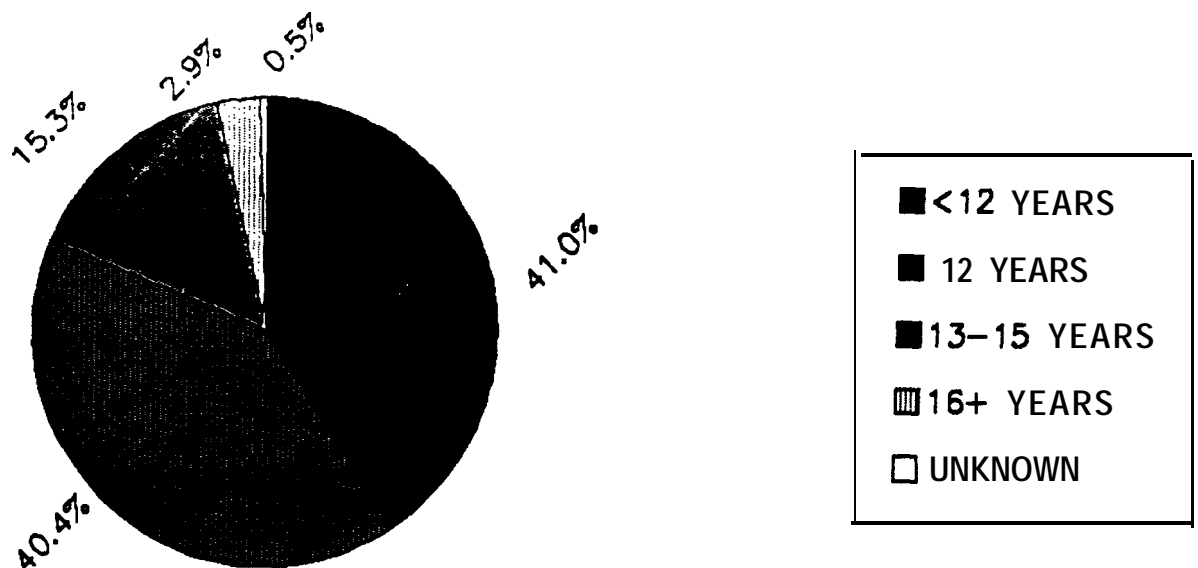


Chart 12

COMPLETED YEARS OF MOTHER'S EDUCATION  
RESIDENT 'LIVE BIRTHS  
ALL RACES  
NON-FEDERALLY RECOGNIZED COUNTIES  
CALIFORNIA, 1989

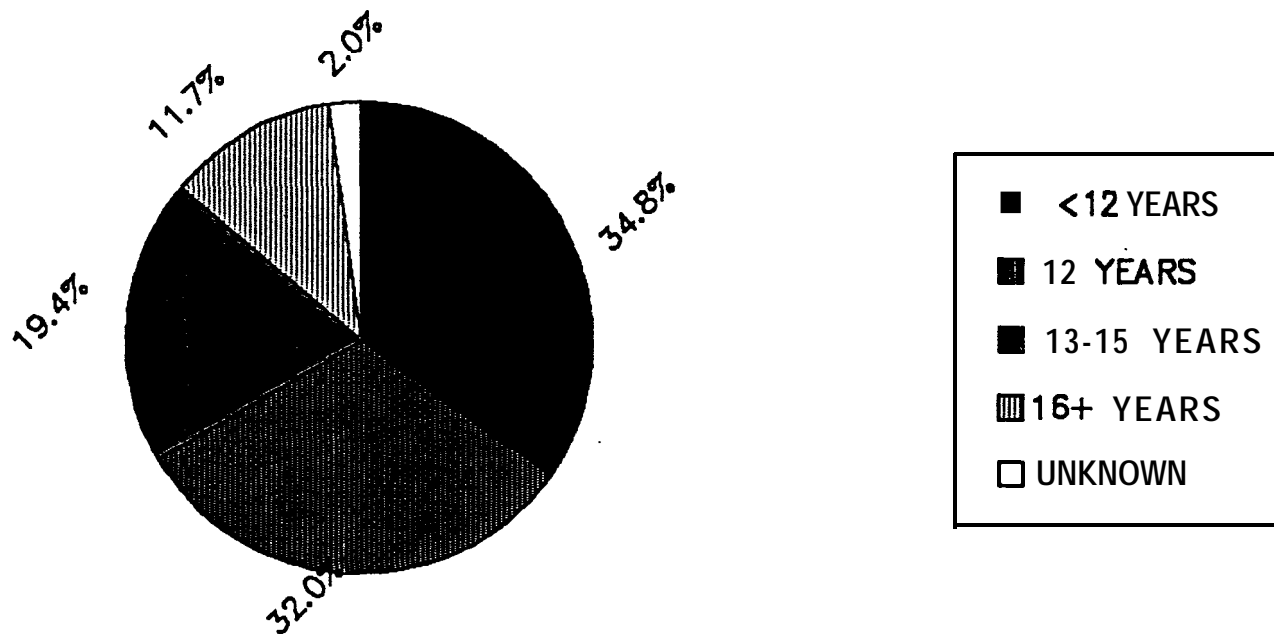


Chart 13

RESIDENT LIVE BIRTHS BY BIRTH ORDER  
AMERICAN INDIANS/ALASKA NATIVES AND ALL RACES  
CALIFORNIA, 1986-88

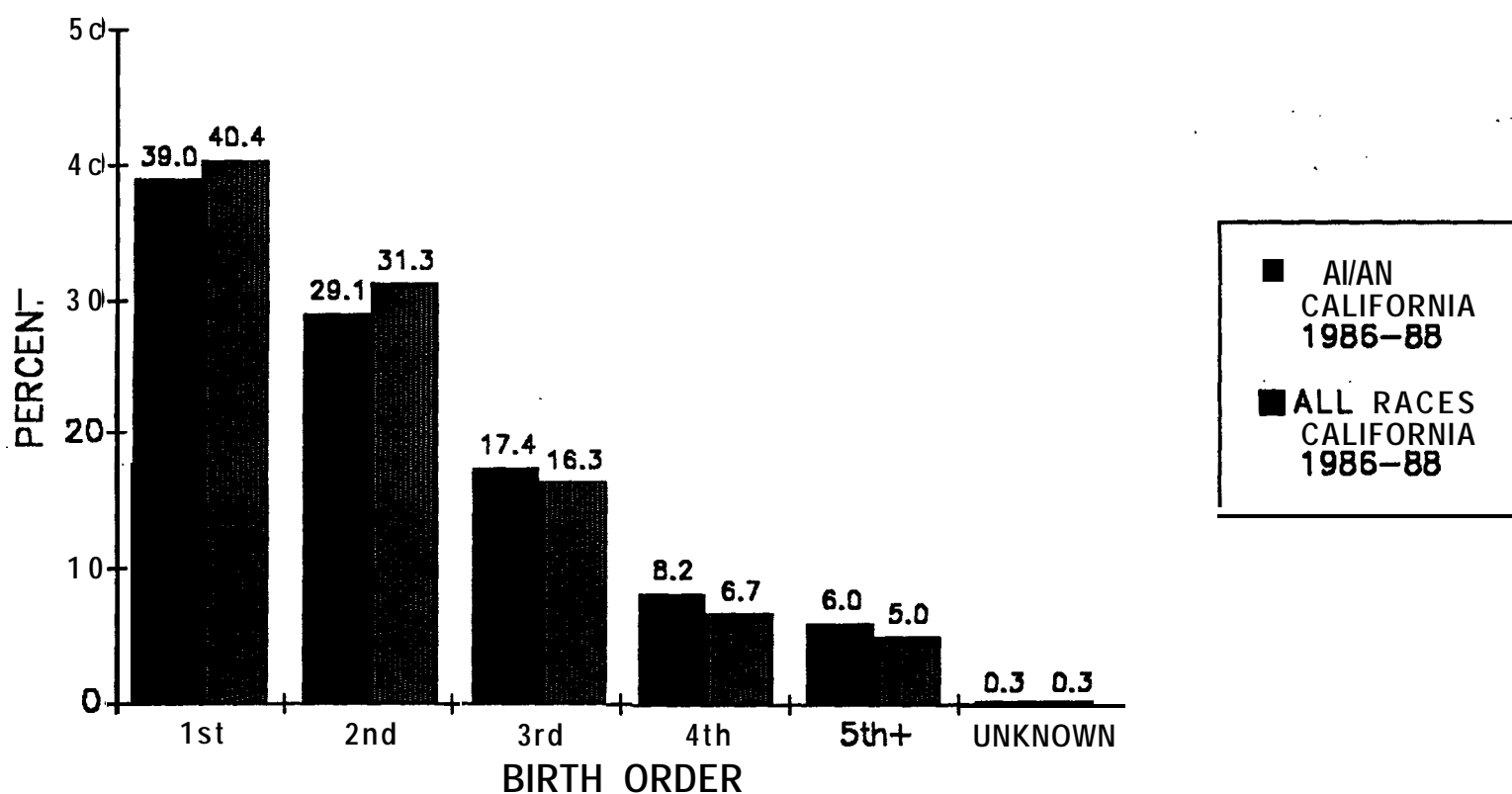


Chart 14

**RESIDENT LIVE BIRTHS BY BIRTH ORDER  
AMERICAN INDIANS/ALASKA NATIVES AND ALL RACES  
UNITED STATES, 1986-88**

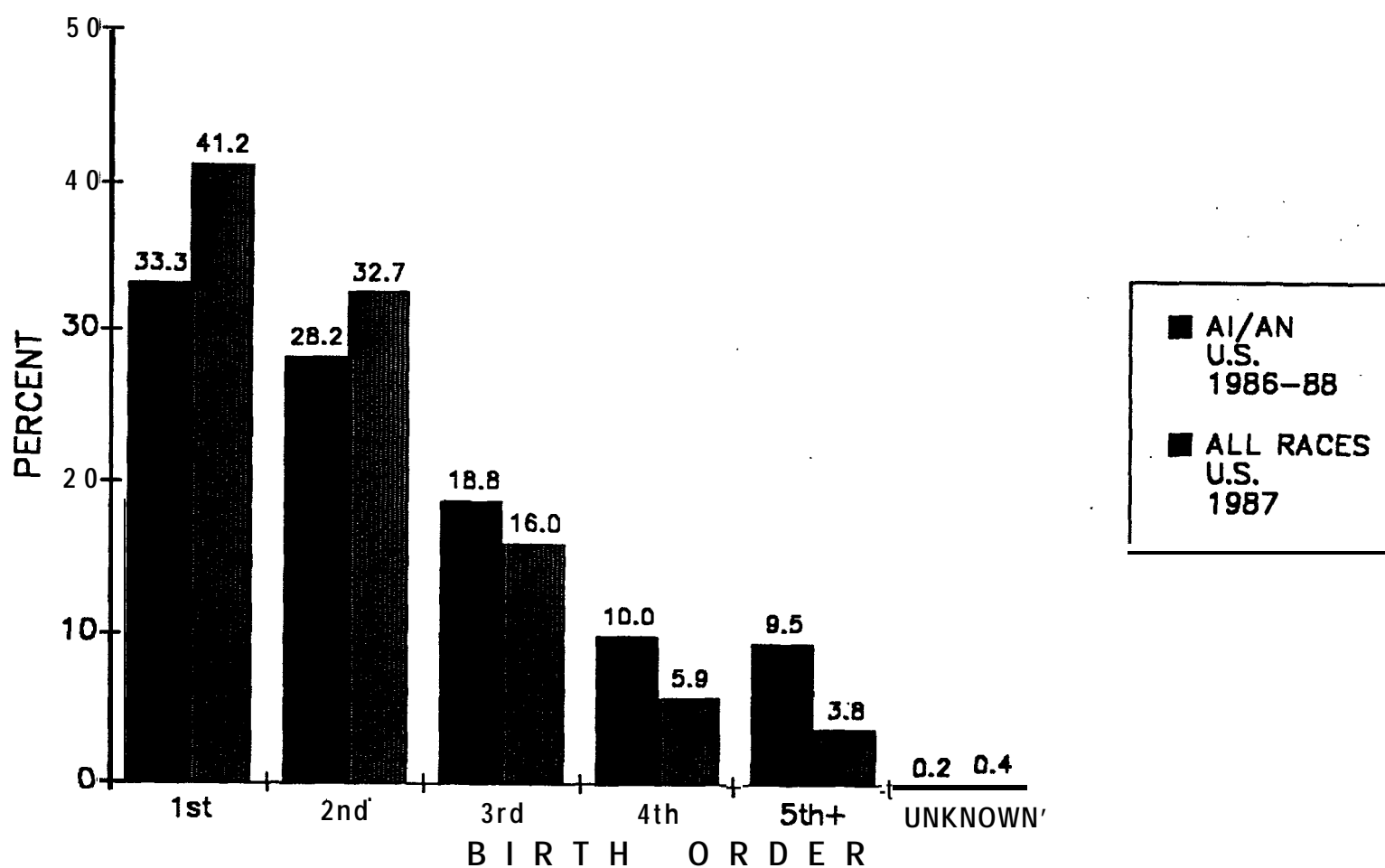


Table 11

PERCENT OF RESIDENT LIVE BIRTHS UNDER 2,500 GRAMS  
BY AGE OF MOTHER AND RACE/ETHNICITY OF INFANT(1)  
CALIFORNIA, 1986-88

AGE	TOTAL	AMERICAN INDIAN/ ALASKA NATIVE (including Hispanics)	ASIAN PACIFIC ISLANDER (2)	BLACK (2)	WHITE (2)	HISPANIC (excluding AI/AN)
TOTAL	6.0	6.4	6.0	12.7	5.2	5.2
<15	10.4	8.9	10.9	12.4	10.1	9.6
15-19	7.4	6.7	9.2	12.0	6.5	6.3
20-24	6.0	5.7	6.5	12.0	5.2	5.1
25-29	5.5	5.9	5.3	12.9	4.7	4.6
30-34	5.7	7.5	5.7	14.0	5.0	5.1
35-39	6.5	7.9	6.4	13.6	5.8	6.0
40+	7.0	7.6	7.4	14.0	6.3	6.6

(1) For American Indians/Alaska Natives, defined as those with mother and/or father recorded on birth certificate as AI/AN. For other race/ethnicities, defined according to National Center for Health Statistics algorithm (see Appendices 4-A and 4-B).

(2) Non-Hispanic.

Source: State of California, Department of Health Services, Health Data and Statistics Branch.



**Table 12**

RESIDENT LIVE BIRTHS UNDER 2,500 GRAMS BY AGE OF MOTHER  
AMERICAN INDIANS/ALASKA NATIVES(1) AND ALL RACES  
CALIFORNIA AND UNITED STATES, 1986-88

AGE OF MOTHER	AMERICAN INDIAN/ALASKA NATIVE CALIFORNIA 1986-88			ALL RACES CALIFORNIA 1986-88		
	TOTAL NUMBER LIVE BIRTHS(2)	NUMBER <2,500 GRAMS	PERCENT <2,500 GRAMS	TOTAL NUMBER LIVE BIRTHS(3)	NUMBER <2,500 GRAMS	PERCENT <2,500 GRAMS
ALL AGES	16,917	1,075	6.4	1,516,810	91,031	6.0
< 15	56	5	8.9	2,969	310	10.4
15-19	2,777	186	6.7	163,131	12,084	7.4
20-24	5,498	315	5.7	410,255	24,730	6.0
25-29	4,863	287	5.9	476,629	26,102	5.5
30-34	2,643	197	7.5	321,609	18,462	5.7
35-39	910	72	7.9	121,918	7,913	6.5
40+	170	13	7.6	20,299	1,430	7.0

AGE OF MOTHER	AMERICAN INDIAN/ALASKA NATIVE UNITED STATES 1986-88			ALL RACES UNITED STATES 1987		
	TOTAL NUMBER LIVE BIRTHS(4)	NUMBER <2,500 GRAMS	PERCENT <2,500 GRAMS	TOTAL NUMBER LIVE BIRTHS(5)	NUMBER <2,500 GRAMS	PERCENT <2,500 GRAMS
ALL AGES	127,219	7,774	6.1	3,809,394	262,344	6.9
< 15	471	35	7.4	10,311	1,412	13.7
15-19	23,730	1,501	6.3	462,312	43,054	9.3
20-24	44,515	2,491	5.6	1,075,856	76,562	7.1
25-29	33,318	1,959	5.9	1,216,080	74,309	6.1
30-34	17,804	1,222	6.9	760,695	46,979	6.2
35-39	6,248	462	7.4	247,984	17,169	6.9
40+	1,133	104	9.2	36,156	2,859	7.9

(1) For California, defined as those with mother and/or father recorded on birth certificate as AI/AN, including Hispanics. For U.S., defined according to National Center for Health Statistics algorithm (see Appendices 4-A and 4-B).

(2) Excludes 18 births missing information on mother's age and/or infant's birthweight.

(3) Excludes 1,179 births missing information on mother's age and/or infant's birthweight.

(4) Excludes 206 births missing information on infant's birthweight.

(5) Excludes 4,885 births missing information on infant's birthweight.

Source: State of California, Department of Health Services, Health Data and Statistics Branch.  
Indian Health Service, Office of Planning, Evaluation, and Legislation.

Chart 15

RESIDENT LIVE BIRTHS UNDER 2,500 GRAMS BY AGE OF MOTHER  
AMERICAN INDIANS/ALASKA NATIVES AND ALL RACES  
CALIFORNIA, 1986-438

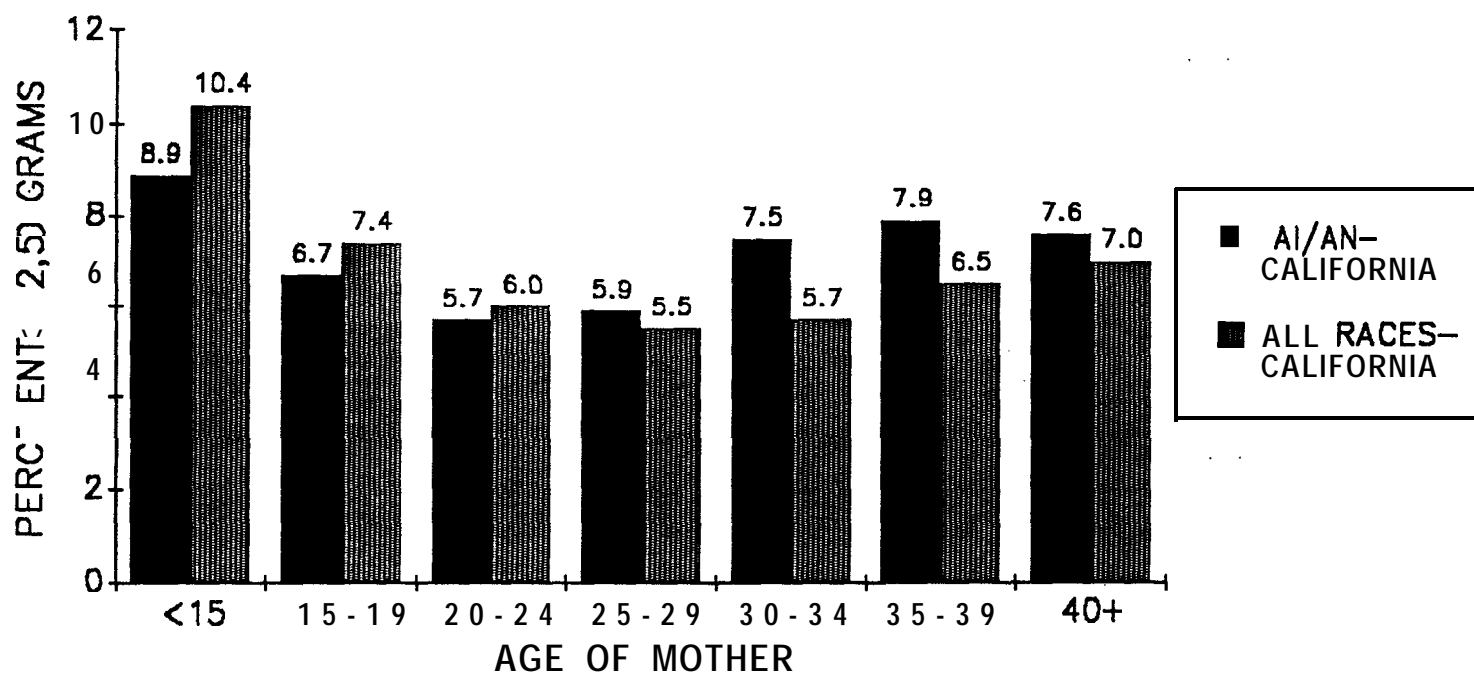


Chart 16

RESIDENT LIVE BIRTHS UNDER 2,500 GRAMS BY AGE OF MOTHER  
AMERICAN INDIANS/ALASKA NATIVES AND ALL RACES  
UNITED STATES, 1986-88

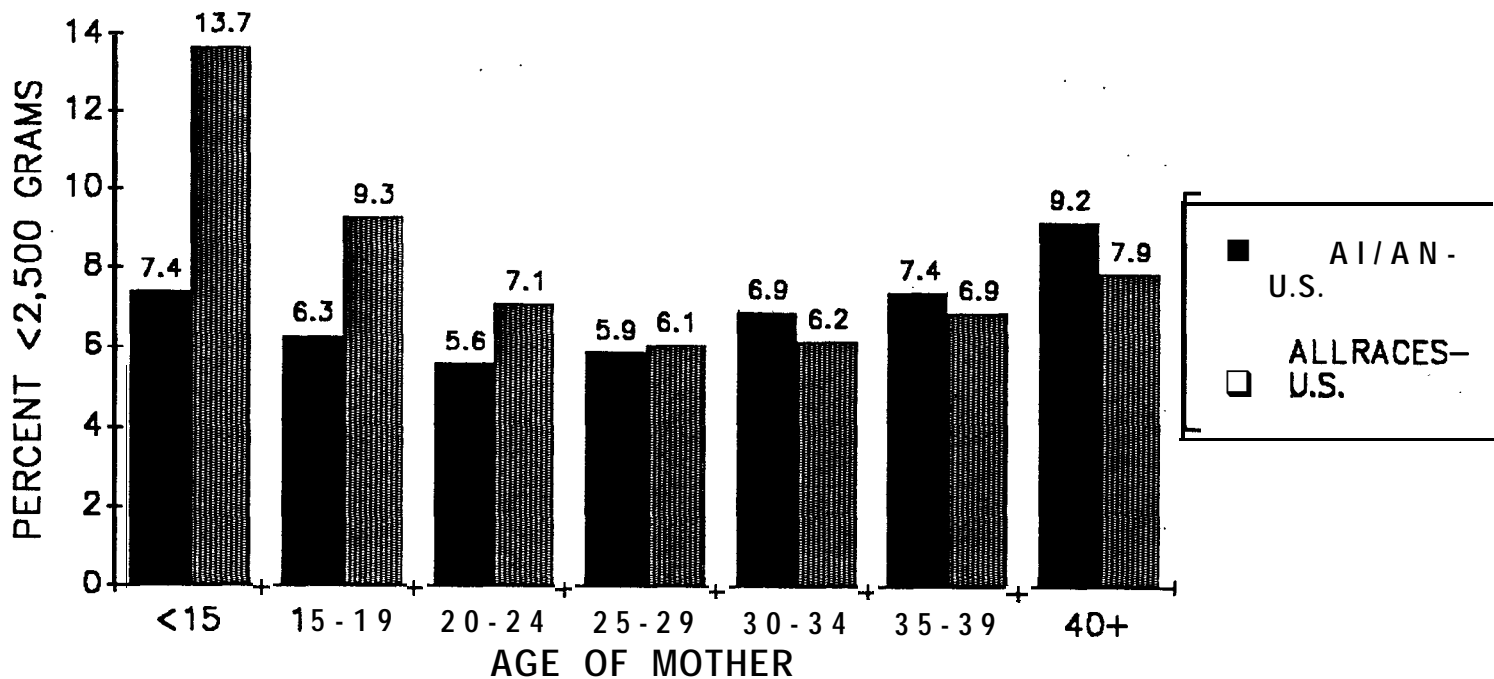


Table 13

TRIMESTER PRENATAL CARE BEGAN  
RESIDENT LIVE BIRTHS  
AMERICAN INDIANS/ALASKA NATIVES(1) AND ALL RACES  
ALL 58 COUNTIES  
CALIFORNIA, 1986-88

TRIMESTER		AMERICAN INDIAN/ ALASKA NATIVE	ALL RACES
TOTAL	NUMBER	16,935	<b>1,517,989</b>
	PERCENT	<b>100.0(2)</b>	100.0
<b>1st</b>	NUMBER	11,566	<b>1,128,832</b>
	PERCENT	68.3	74.4
2nd	NUMBER	3,823	278,687
	PERCENT	22.6	18.4
3rd	NUMBER	941	58,726
	PERCENT	5.6	3.9
No prenatal care	NUMBER	382	28,623
	PERCENT	2.3	1.9
Unknown	NUMBER	223	23,121
	PERCENT	1.3	1.5

(1) Mother and/or father recorded on birth certificate as AI/AN, including Hispanics.

(2) Percentages may not sum to 100.0% due to independent rounding.

Source: State of California, Department of Health Services, Health Data and Statistics Branch.

Chart 17

TRIMESTER PRENATAL CARE BEGAN  
RESIDENT LIVE BIRTHS  
AMERICAN INDIANS/ALASKA NATIVES AND ALL RACES  
ALL 58 COUNTIES  
CALIFORNIA, 1986-88

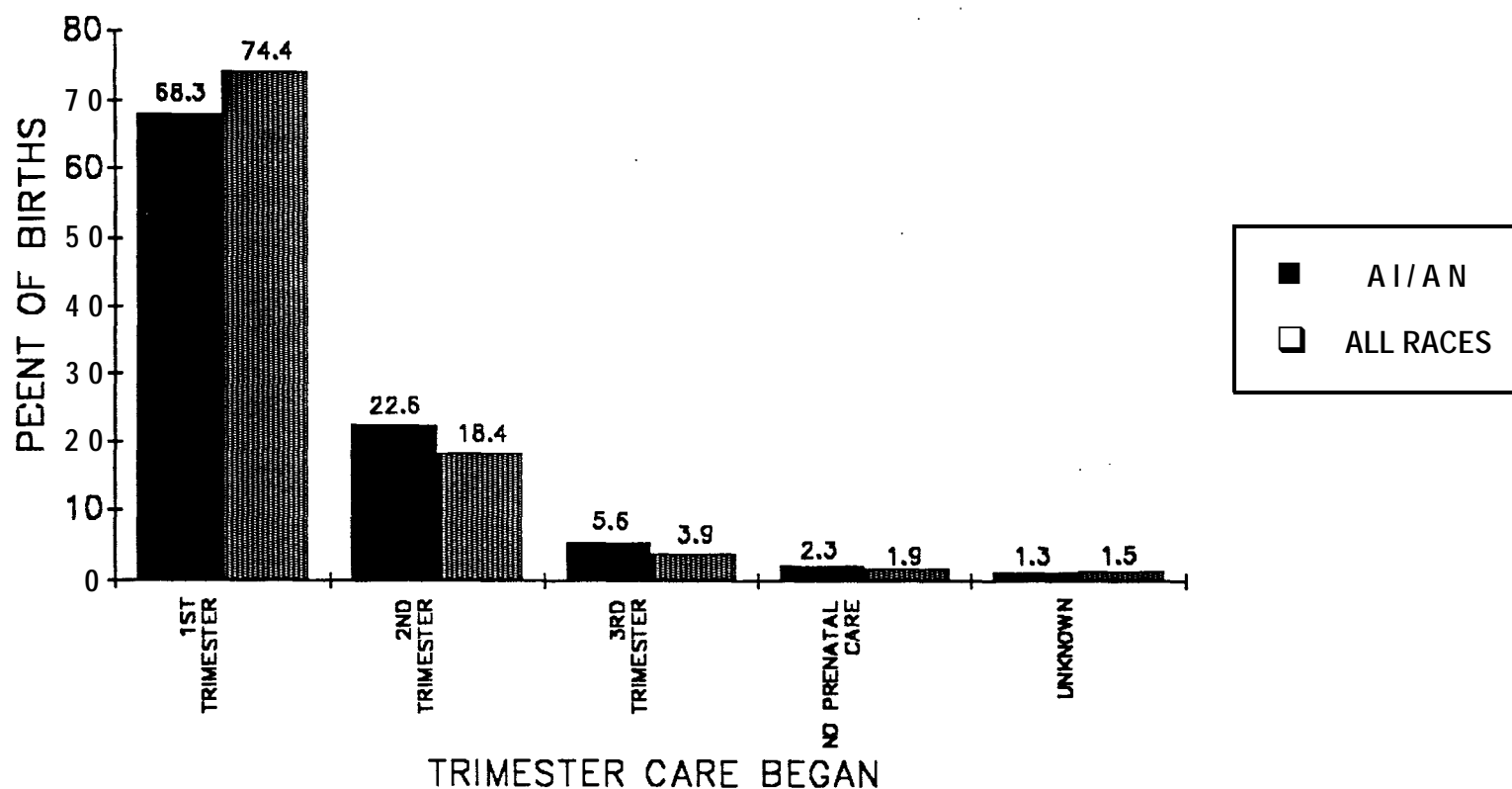


Table 14

TRIMESTER PRENATAL CARE BEGAN  
RESIDENT LIVE BIRTHS  
AMERICAN INDIANS/ALASKA NATIVES(1) AND ALL RACES  
INDIAN AND NON-INDIAN COUNTIES  
CALIFORNIA, 1986-88

TRIMESTER		AMERICAN INDIAN/ ALASKA NATIVE		ALL RACES	
		INDIAN COUNTIES	NON-INDIAN COUNTIES	INDIAN COUNTIES	NON-INDIAN COUNTIES
TOTAL	NUMBER	8,681	8,254	424,712	<b>1,093,277</b>
	PERCENT	<b>100.0(2)</b>	100.0	100.0	100.0
<b>1st</b>	NUMBER	5,804	5,762	310,975	817,857
	PERCENT	66.9	69.8	73.2	74.8
2nd	NUMBER	2,012	1,811	80,626	198,061
	PERCENT	23.2	21.9	19.0	18.1
3rd	NUMBER	532	409	17,684	41,042
	PERCENT	6.1	5.0	4.2	3.8
No prenatal care	NUMBER	223	159	<b>9,797</b>	18,826
	PERCENT	2.6	1.9	2.3	1.7
Unknown	NUMBER	110	113	5,630	17,491
	PERCENT	1.3	1.4	1.3	1.6

(1) Mother and/or father recorded on birth certificate as AI/AN, including Hispanics.

(2) Percentages may not sum to 100.0% due to independent rounding.

Source: State of California, Department of Health Services, Health Data and Statistics Branch.

Chart 18

TRIMESTER PRENATAL CARE BEGAN  
RESIDENT LIVE BIRTHS  
AMERICAN INDIANS/ALASKA NATIVES AND ALL RACES  
INDIAN COUNTIES  
CALIFORNIA, 1986-88

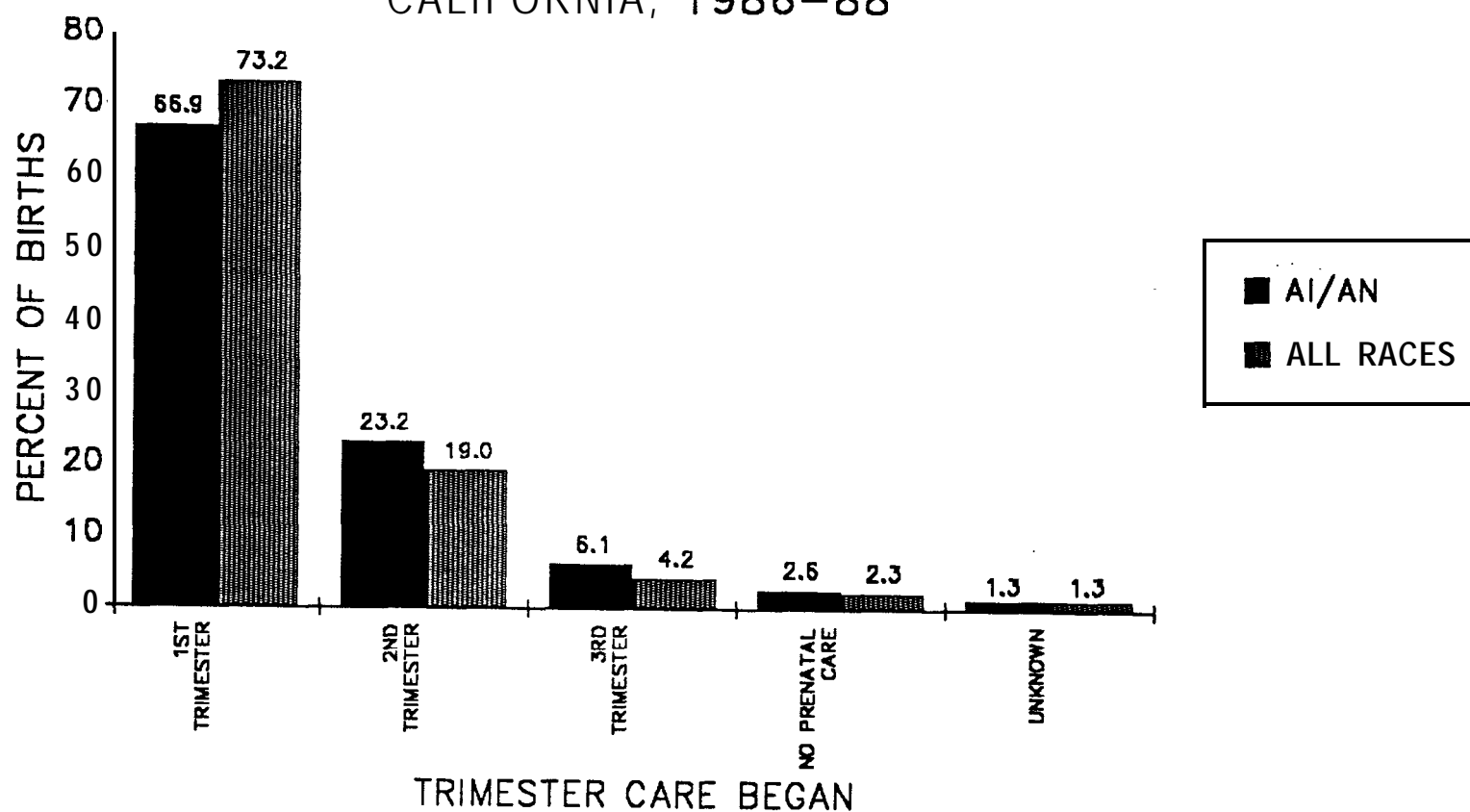


Chart 19

TRIMESTER PRENATAL CARE BEGAN  
RESIDENT LIVE BIRTHS  
AMERICAN INDIANS/ALASKA NATIVES AND ALL RACES  
NON-INDIAN COUNTIES  
CALIFORNIA, 198648

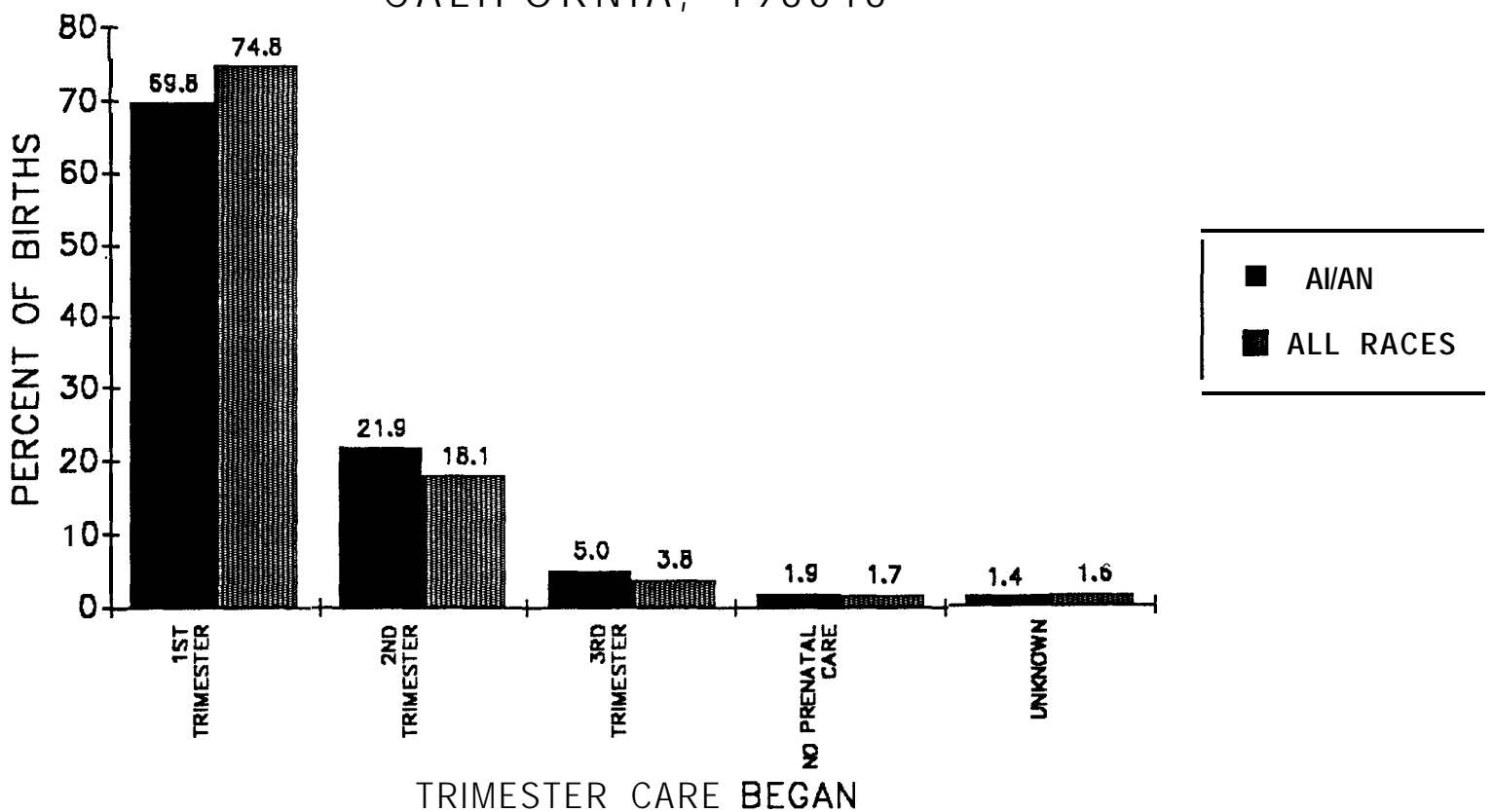




Table 15

TRIMESTER PRENATAL CARE BEGAN  
RESIDENT LIVE BIRTHS  
AMERICAN INDIANS/ALASKA NATIVES(1) AND ALL RACES  
FEDERALLY RECOGNIZED AND NON-FEDERALLY RECOGNIZED COUNTIES  
CALIFORNIA, 1986-88

TRIMESTER		AMERICAN INDIAN/ ALASKA NATIVE		ALL RACES	
		FEDERALLY RECOGNIZED COUNTIES	NON-FEDERALLY RECOGNIZED COUNTIES	FEDERALLY RECOGNIZED COUNTIES	NON-FEDERALLY RECOGNIZED COUNTIES
TOTAL	NUMBER	5,130	<b>1,596</b>	261,794	89,337
	PERCENT	<b>100.0 (2)</b>	100.0	100.0	100.0
<b>1st</b>	NUMBER	3,507	1,058	190,082	<b>66,420</b>
	PERCENT	68.4	66.3	72.6	74.3
2nd	NUMBER	1,165	380	<b>49,934</b>	16,707
	PERCENT	22.7	23.8	19.1	18.7
3rd	NUMBER	262	104	<b>10,650</b>	<b>3,570</b>
	PERCENT	5.1	6.5	4.1	<b>4.0</b>
<b>No. prenatal care</b>	NUMBER	130	41	7,378	1,500
	PERCENT	2.5	2.6	2.8	1.7
Unknown	NUMBER	66	13	3,750	1,140
	PERCENT	1.3	0.8	1.4	1.3

(1) Mother and/or father recorded on birth certificate as AI/AN, including Hispanics.

(2) Percentages may not sum to 100.0% due to independent rounding.

Source: State of California, Department of Health Services, Health Data and Statistics Branch.

Chart 20

TRIMESTER PRENATAL CARE BEGAN  
RESIDENT LIVE BIRTHS  
AMERICAN INDIANS/ALASKA NATIVES AND ALL RACES  
FEDERALLY RECOGNIZED COUNTIES  
CALIFORNIA, 1986-88

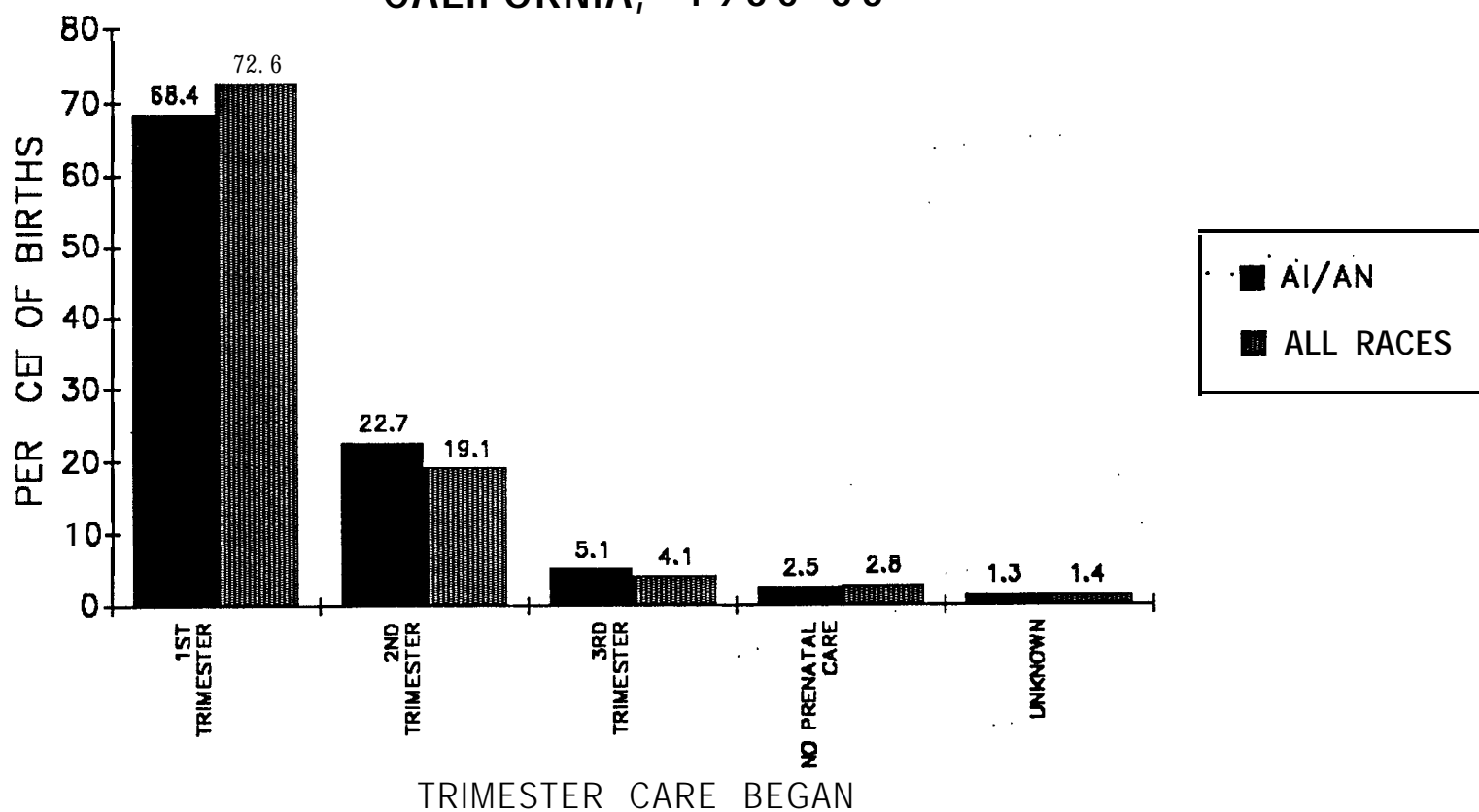


Chart 21

TRIMESTER PRENATAL CARE BEGAN  
RESIDENT LIVE BIRTHS  
AMERICAN INDIANS/ALASKA NATIVES AND ALL RACES  
NON-FEDERALLY RECOGNIZED COUNTIES  
CALIFORNIA, 1986-88

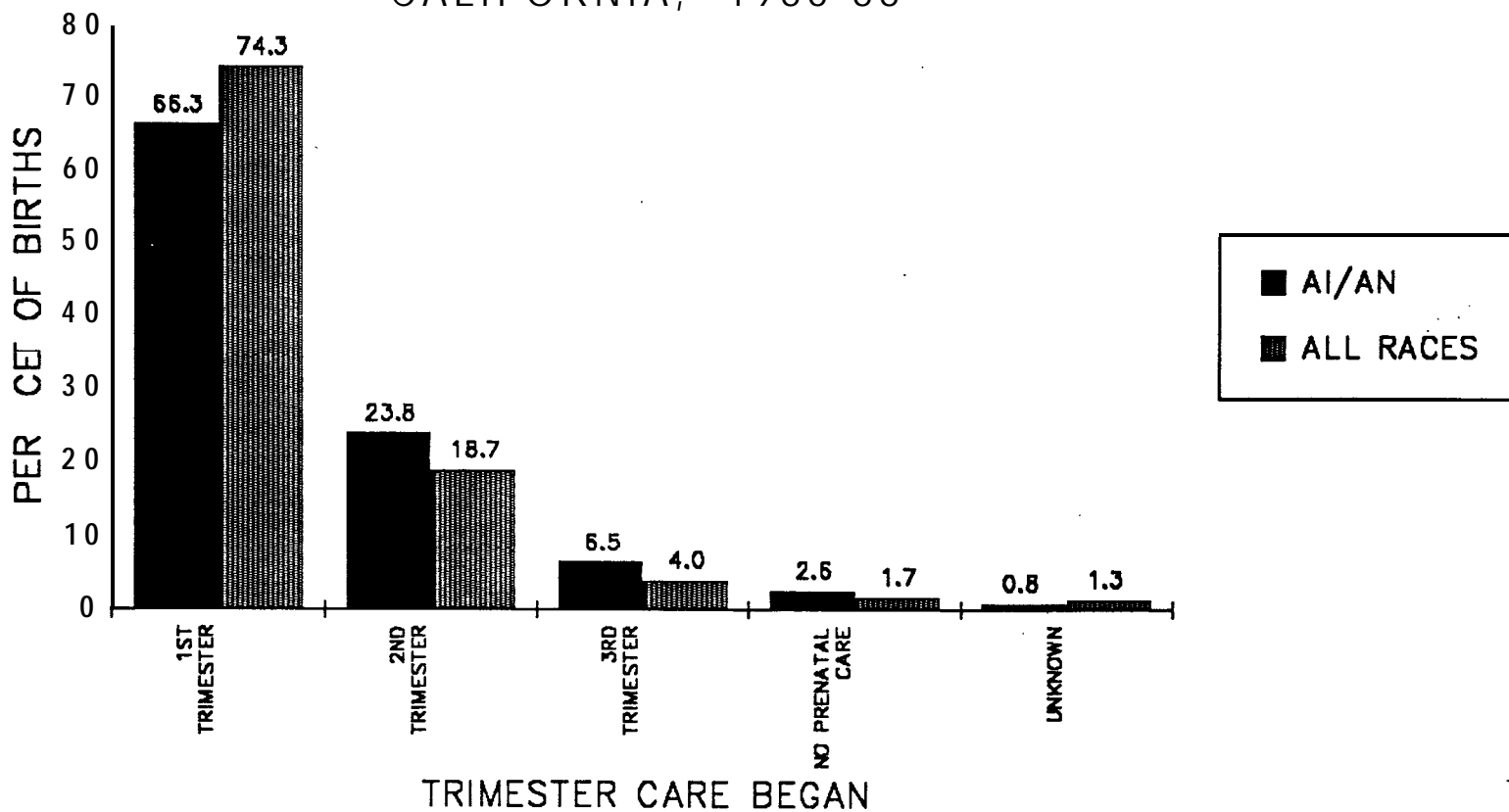


Table 16

TRIMESTER PRENATAL CARE BEGAN  
RESIDENT LIVE BIRTHS  
AMERICAN INDIANS/ALASKA NATIVES(1) AND ALL RACES  
COUNTIES WITH IHS CONTRACT CLINICS ACCESSIBLE(2)  
TO 80%, 50%, AND NONE OF AMERICAN INDIAN/ALASKA NATIVE POPULATION

TRIMESTER		AMERICAN INDIAN/ ALASKA NATIVE			ALL RACES		
		ACCESS FOR 80%	ACCESS FOR 50%	NO ACCESS	ACCESS FOR 80%	ACCESS FOR 50%	NO ACCESS
TOTAL	NUMBER	3,627	1,070	695	241,693	137,327	45,646
	PERCENT	100.0 (3)	100.0	100.0	100.0	100.0	100.0
1st	NUMBER	2,343	688	404	176,992	100,756	33,199
	PERCENT	64.6	64.3	58.1	73.2	73.4	72.7
2nd	NUMBER	880	272	181	44,968	26,620	9,028
	PERCENT	24.3	25.4	26.0	18.6	19.4	19.8
3rd	NUMBER	248	67	75	10,052	5,339	2,286
	PERCENT	6.8	6.3	10.8	4.2	3.9	5.0
No prenatal care	NUMBER	109	27	25	6,538	2,524	735
	PERCENT	3.0	2.5	3.6	2.7	1.8	1.6
Unknown	NUMBER	47	16	10	3,143	2,088	398
	PERCENT	1.3	1.5	1.4	1.3	1.5	0.9

(1) Mother and/or father recorded on birth certificate as AI/AN, including Hispanics.

(2) Within 30 minutes of residence.

(3) Percentages may not sum to 100.0% due to independent rounding.

Source: State of California, Department of Health Services, Health Data and Statistics Branch.

Chart 22

TRIMESTER PRENATAL CARE BEGAN  
RESIDENT **LIVE** BIRTHS  
AMERICAN INDIANS/ALASKA NATIVES  
COUNTIES WITH IHS CONTRACT CLINICS ACCESSIBLE  
TO **80%, 50%, AND NONE** OF AMERICAN INDIAN/ALASKA NATIVE POPULATION  
CALIFORNIA, 1986-88

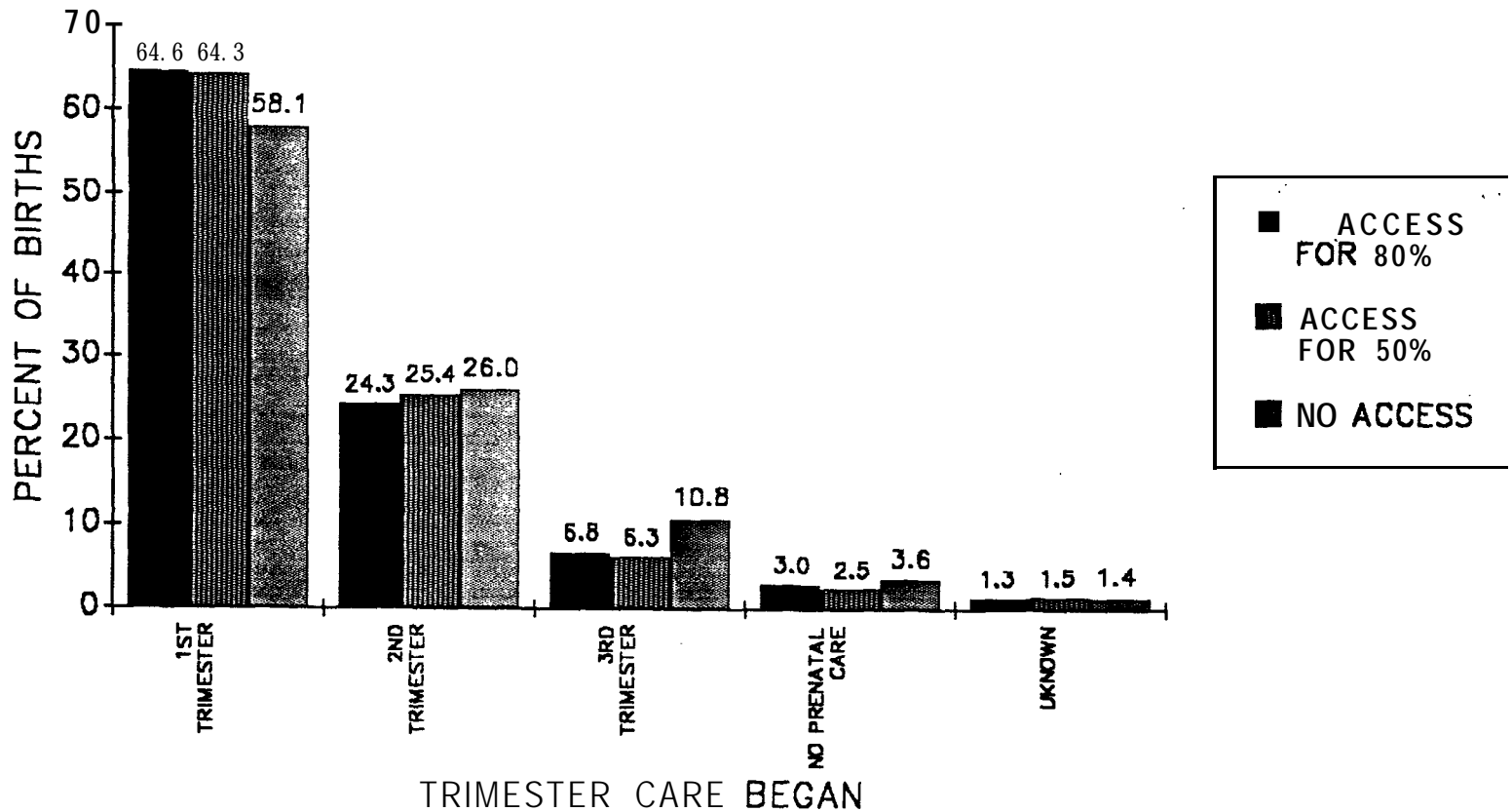


Chart 23

TRIMESTER PRENATAL CARE BEGAN  
RESIDENT LIVE BIRTHS  
ALL RACES  
COUNTIES WITH IHS CONTRACT CLINICS **ACCESSIBLE**  
TO **80%, 50%, AND NONE** OF AMERICAN INDIAN/ALASKA NATIVE POPULATION  
CALIFORNIA, **1986-88**

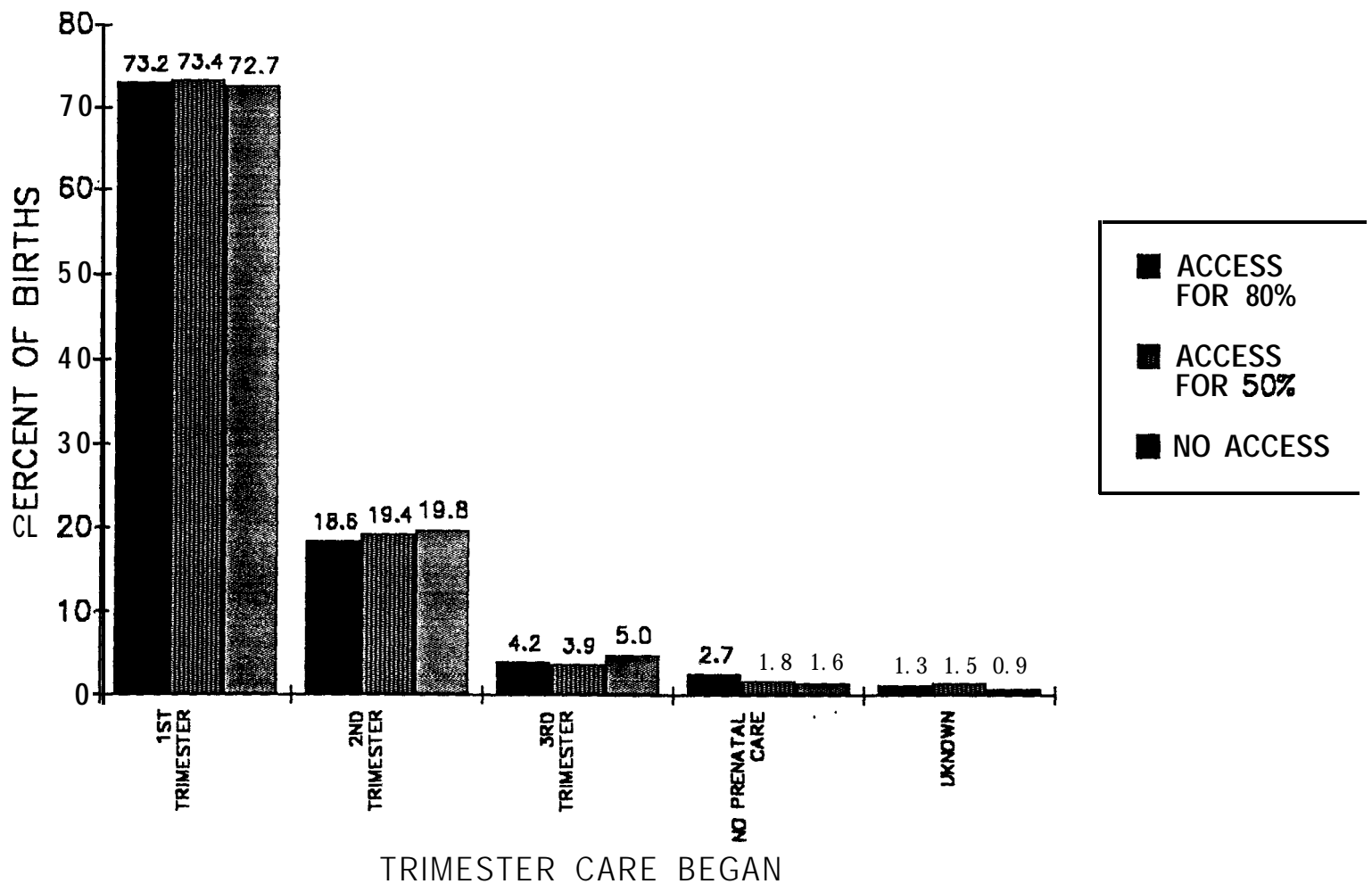


Table 17

RESIDENT LIVE BIRTHS UNDER 2,500 GRAMS  
BY TRIMESTER PRENATAL CARE BEGAN  
AMERICAN INDIANS/ALASKA NATIVES(1) AND ALL RACES  
CALIFORNIA, 1986-88

TRIMESTER	AMERICAN INDIAN/ ALASKA NATIVE BIRTHS BIRTHS <2,500 GRAMS		ALL RACES BIRTHS <2,500 GRAMS	
	NUMBER	PERCENT	NUMBER	PERCENT
TOTAL	1,076	100.0(2)	91,122	100.0
1st	683	63.5	62,119	68.2
2nd	250	23.2	18,541	20.3
3rd	54	5.0	3,746.	4 . 1
No prenatal care	67	6.2	4 , 4 6 7	4.9
Unknown	22	2.0	2,249	2.5

(1) Mother and/or father recorded on birth certificate as AI/AN, including Hispanics.

(2) Percentages may not sum to 100.0% due to independent rounding.

Source: State of California, Department of Health Services, Health Data and Statistics Branch.

Chart 24

RESIDENT LIVE BIRTHS UNDER 2,500 GRAMS  
BY TRIMESTER PRENATAL CARE BEGAN  
AMERICAN INDIANS/ALASKA NATIVES AND **ALL RACES**  
ALL 58 COUNTIES  
CALIFORNIA, 1986-88

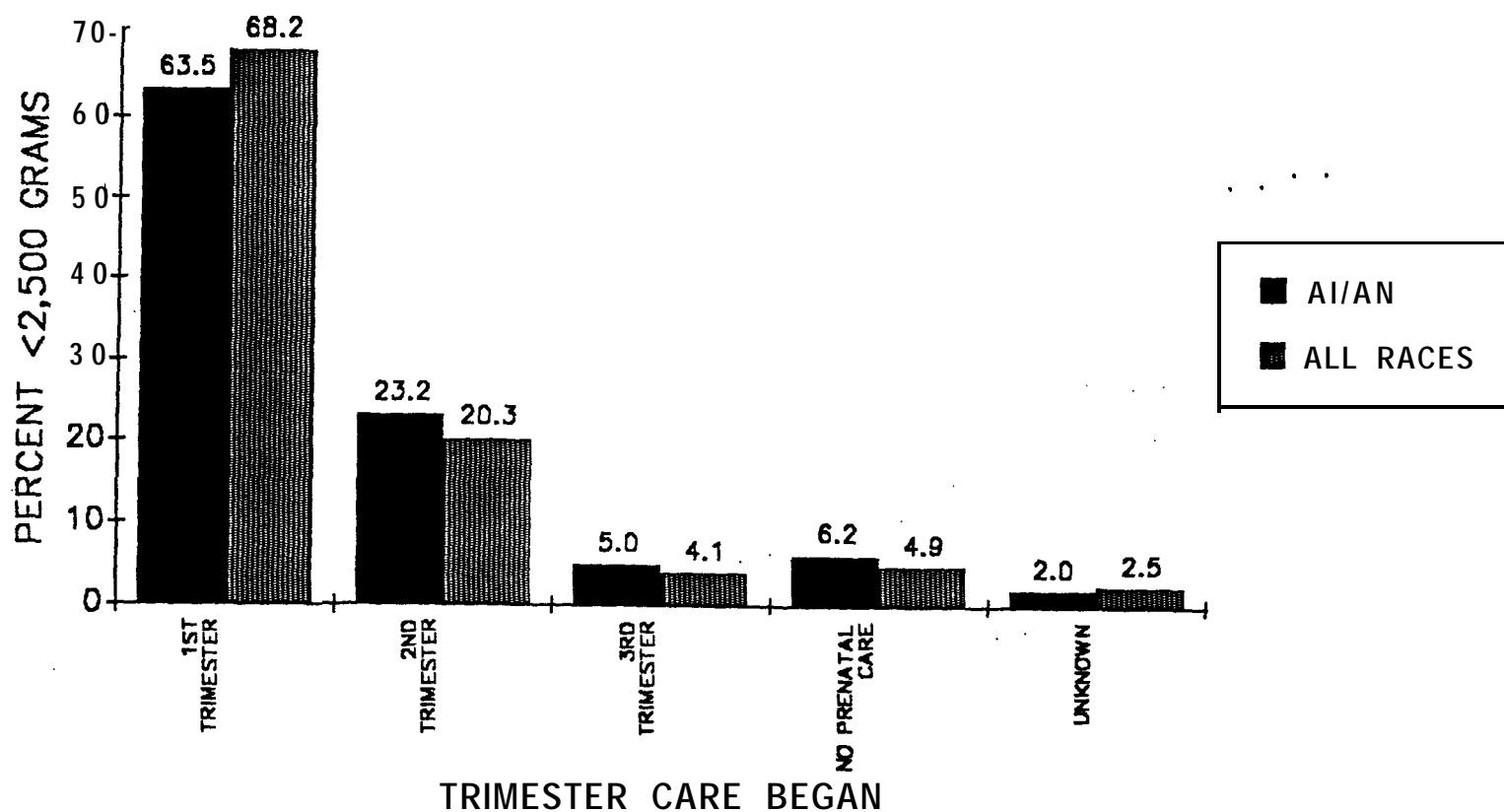




Table 18

PRINCIPAL SOURCE OF PAYMENT FOR PRENATAL CARE  
RESIDENT LIVE BIRTHS  
AMERICAN INDIANS/ALASKA NATIVES(1) AND ALL RACES  
ALL 58 COUNTIES  
CALIFORNIA, 1989

PAYER SOURCE		AMERICAN INDIAN/ ALASKA NATIVE	ALL RACES
TOTAL	NUMBER	5,615	569,308
	PERCENT	<b>100.0(2)</b>	100.0
PRIVATE	NUMBER	2,229	300,285
(Indemnity	PERCENT	39.7	52.7
and Prepaid)			
MEDI-CAL	NUMBER	2,554	157,411
	PERCENT	45.5	27.6
OTHER GOVERNMENT	NUMBER	262	20,121
	PERCENT	4.7	3.5
UNINSURED	NUMBER	360	73,484
(Self-pay and	PERCENT	6.4	12.9
Medically Indigent			
Services)			
OTHER	NUMBER	51	5 , 6 2 1
(Medicare, Worker's	PERCENT	0.9	1.0
Compensation, Title V,			
No charge, Other <b>non-</b>			
government)			
UNKNOWN/	NUMBER	<b>159</b>	12,386
NO PRENATAL CARE	PERCENT	2.8	2.2

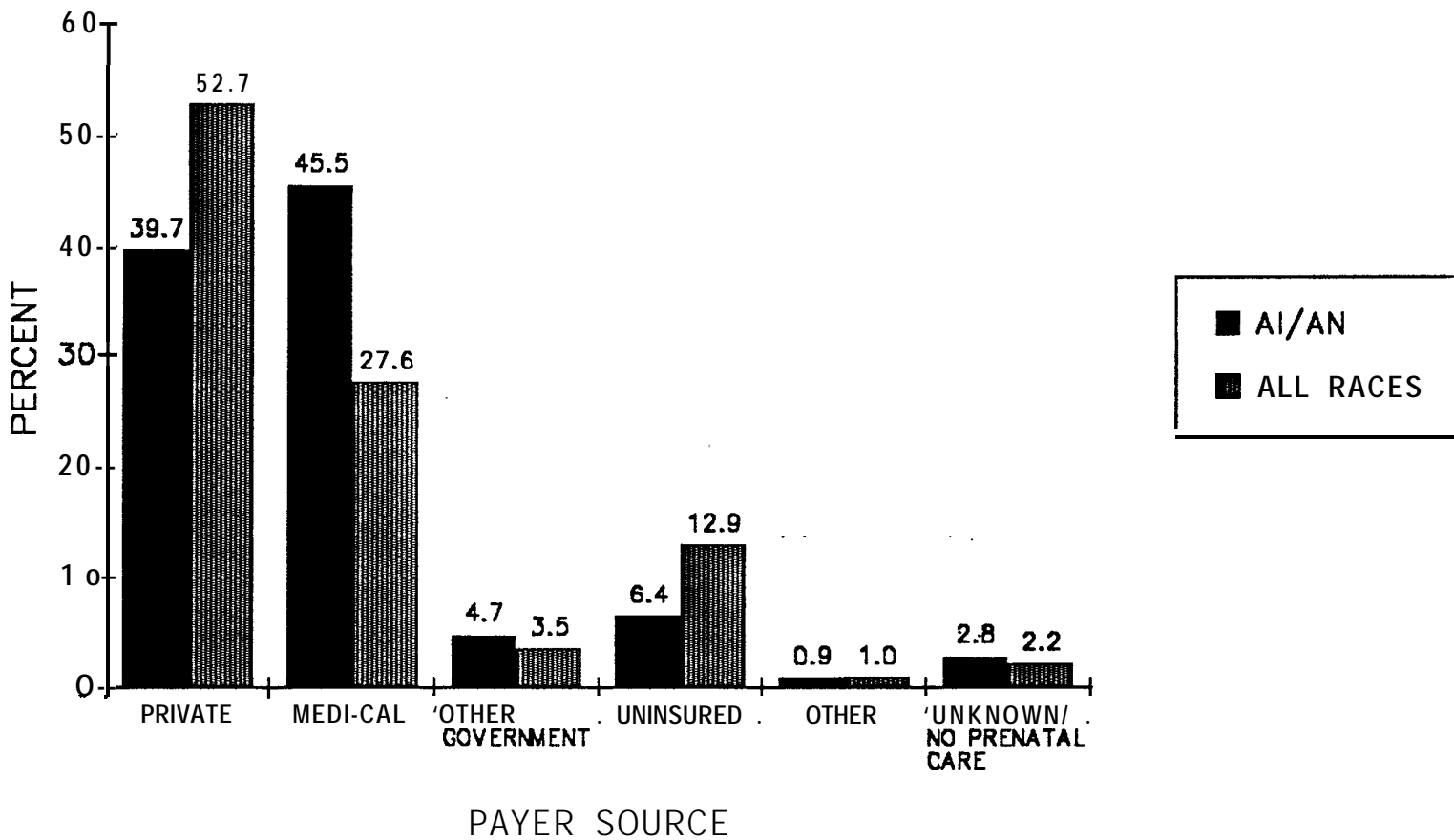
(1) Mother and/or father recorded on birth certificate as AI/AN, including Hispanics.

(2) Percentages may not sum to 100.0% due to independent rounding.

Source: State of California, Department of Health Services, Health Data and Statistics Branch.

**Chart 25**

PRINCIPAL SOURCE OF PAYMENT FOR PRENATAL CARE  
RESIDENT LIVE BIRTHS  
AMERICAN INDIANS/ALASKA NATIVES AND ALL RACES  
ALL 58 COUNTIES  
CALIFORNIA, 1989



**Table 19**

PRINCIPAL SOURCE OF PAYMENT FOR PRENATAL CARE  
RESIDENT LIVE BIRTHS  
AMERICAN INDIANS/ALASKA NATIVES(1) AND ALL RACES  
INDIAN AND NON-INDIAN COUNTIES  
CALIFORNIA, 1989

PAYER SOURCE		AMERICAN INDIAN/ ALASKA NATIVE		ALL RACES	
		INDIAN COUNTIES	NON-INDIAN COUNTIES	INDIAN COUNTIES	NON-INDIAN COUNTIES
TOTAL	NUMBER	1,794	1,576	163,492	405,816
	PERCENT	100.0 (2)	100.0	100.0	100.0
PRIVATE	NUMBER	447	761	75,932	224,353
(Indemnity	PERCENT	24.9	48.3	46.4	55.3
and Prepaid)					
MEDI-CAL	NUMBER	1,043	570	56,833	100,578
	PERCENT	58.1	36.2	34.8	24.8
OTHER GOVERNMENT	NUMBER	97	66	9,338	10,783
	PERCENT	5.4	4.2	5.7	2.7
UNINSURED	NUMBER	106	120	14,299	59,185
(Self-pay and	PERCENT	5.9	7.6	8.7	14.6
Medically Indigent					
Services)					
OTHER	NUMBER	22	15	1,822	3,799
(Medicare, Worker's	PERCENT	1.2	1.0	1.1	0.9
Compensation, Title V,					
No charge, Other non-					
government)					
UNKNOWN/	NUMBER	79	44	5,268	7,118
NO PRENATAL CARE	PERCENT	4.4	2.8	3.2	1.8

(1) Mother and/or father recorded on birth certificate as AI/AN, including Hispanics.

(2) Percentages may not sum to 100.0% due to independent rounding.

Source: State of California, Department of Health Services, Health Data and  
Statistics Branch.

Chart 26

PRINCIPAL SOURCE OF PAYMENT FOR PRENATAL CARE  
RESIDENT LIVE BIRTHS  
AMERICAN INDIANS/ALASKA NATIVES AND ALL RACES  
INDIAN COUNTIES  
CALIFORNIA, 1989

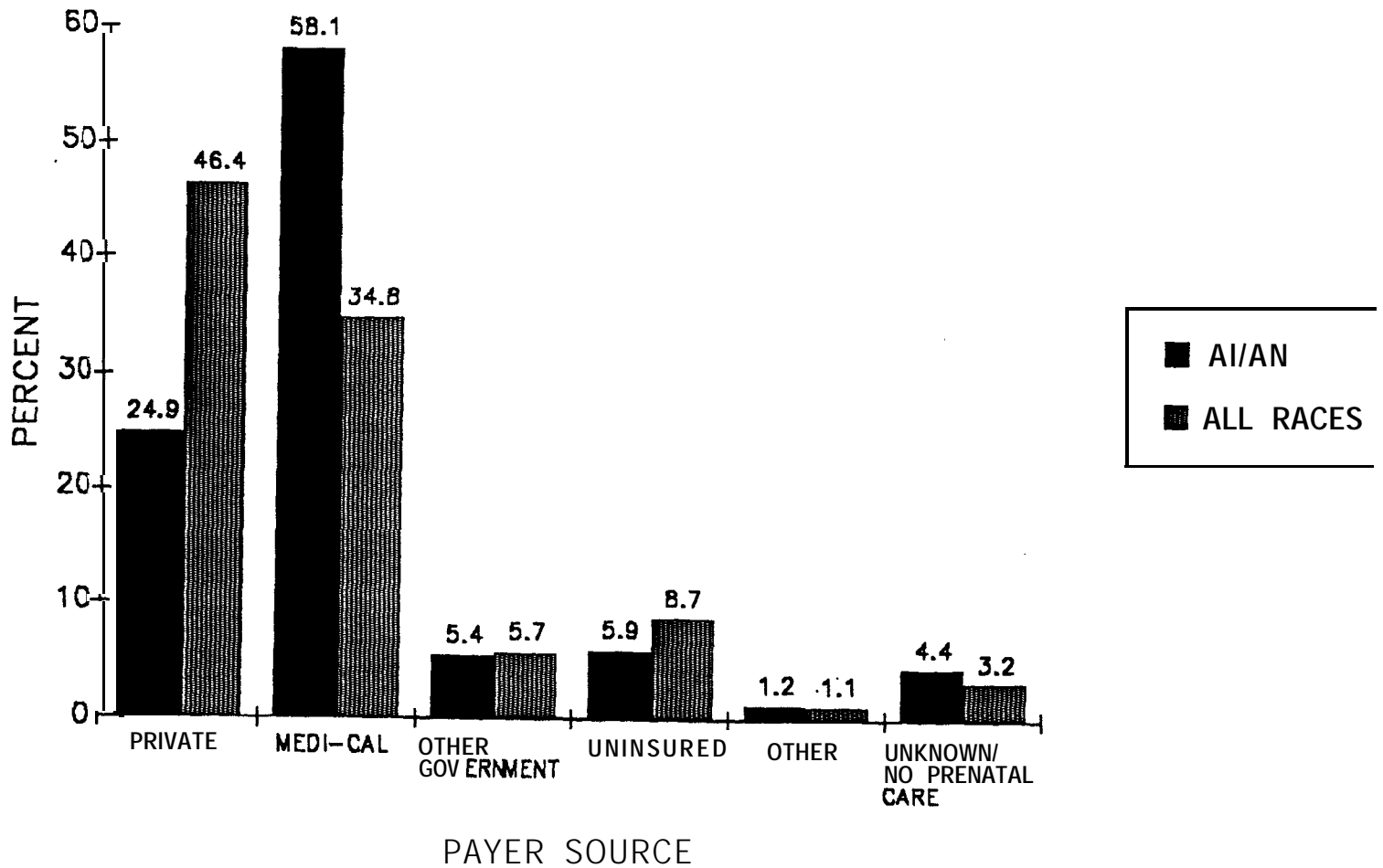


Chart 27

PRINCIPAL SOURCE OF PAYMENT FOR PRENATAL CARE  
RESIDENT LIVE BIRTHS  
AMERICAN INDIANS/ALASKA NATIVES AND ALL RACES  
NON-INDIAN COUNTIES  
CALIFORNIA, 1989

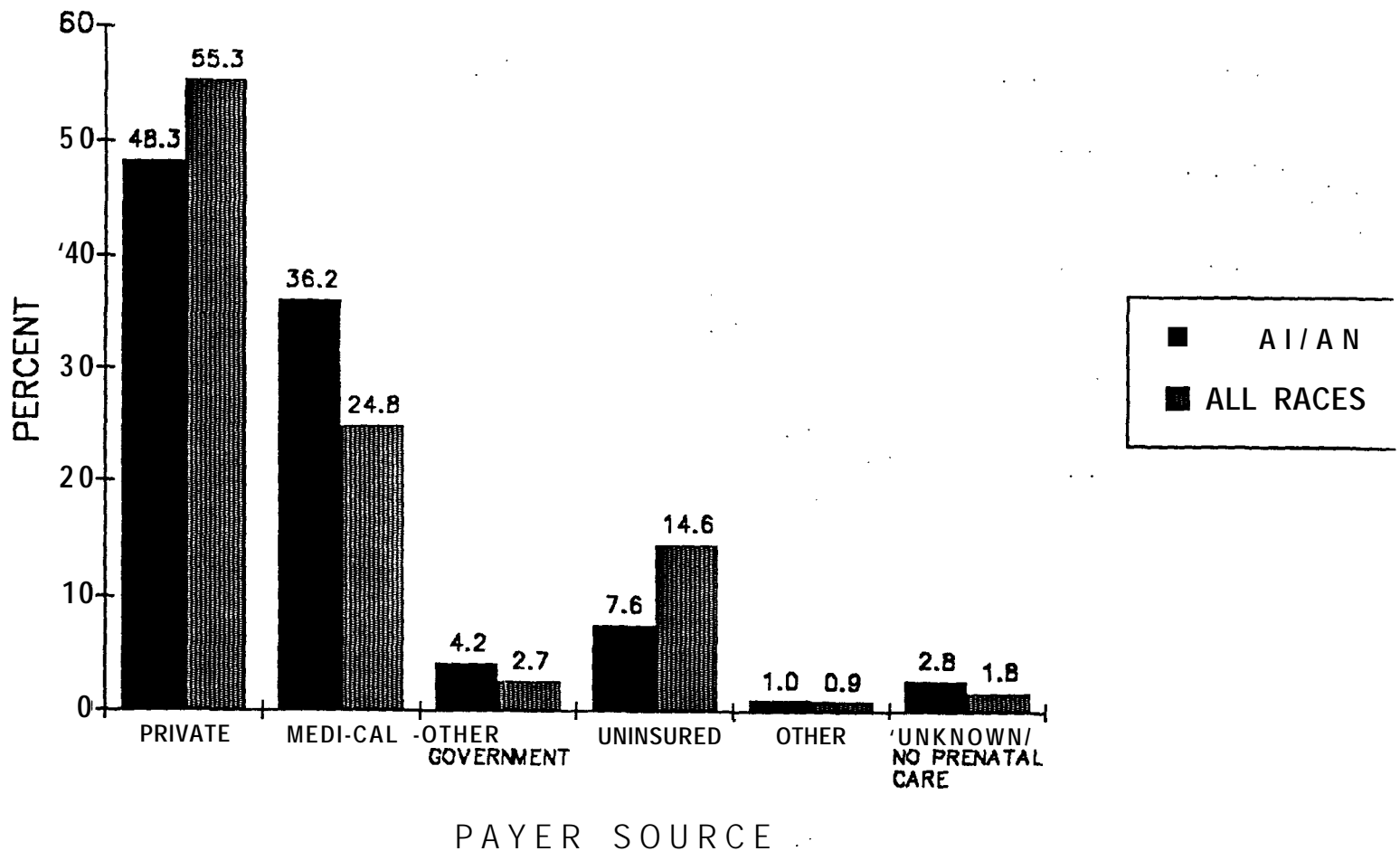


Table 20

PRINCIPAL SOURCE OF PAYMENT FOR PRENATAL CARE  
RESIDENT LIVE BIRTHS  
AMERICAN INDIANS/ALASKA NATIVES(1) AND ALL RACES  
FEDERALLY RECOGNIZED AND NON-FEDERALLY RECOGNIZED COUNTIES  
CALIFORNIA, 1989

PAYER SOURCE		AMERICAN INDIAN/ ALASKA NATIVE		ALL RACES	
		FEDERALLY RECOGNIZED COUNTIES	NON-FEDERALLY RECOGNIZED COUNTIES	FEDERALLY RECOGNIZED COUNTIES	NON-FEDERALLY RECOGNIZED COUNTIES
TOTAL	NUMBER	1,578	622	103,330	32,734
	PERCENT	100.0 (2)	100.0	100.0	100.0
PRIVATE (Indemnity and Prepaid)	NUMBER	501	141	50,216	13,329
	PERCENT	31.7	22.7	48.6	40.7
MEDI-CAL	NUMBER	797	412	30,425	15,179
	PERCENT	50.5	66.2	29.4	46.4
OTHER GOVERNMENT	NUMBER	134	12	8,302	808
	PERCENT	8.5	1.9	8.0	2.5
UNINSURED (Self-pay and Medically Indigent Services)	NUMBER	67	39	8,452	2,863
	PERCENT	4.2	6.3	8.2	8.7
OTHER (Medicare, Worker's Compensation, Title V, No charge, Other non- government)	NUMBER	2 1	4	1,620	97
	PERCENT	1 . 3	0.6	1.6	0.3
UNKNOWN/ NO PRENATAL CARE	NUMBER	58	14	4,315	458
	PERCENT	3.7	2.3	4.2	1.4

(1) Mother and/or father recorded on birth certificate as AI/AN, including Hispanics.

(2) Percentages may not sum 'to 100.0% due to independent rounding.

Source: State of California, Department of Health Services; Health Data and Statistics Branch.

**Chart 28**

PRINCIPAL SOURCE OF PAYMENT FOR PRENATAL CARE  
RESIDENT LIVE BIRTHS  
**AMERICAN INDIANS/ALASKA NATIVES AND ALL RACES**  
FEDERALLY RECOGNIZED COUNTIES  
CALIFORNIA, 1989

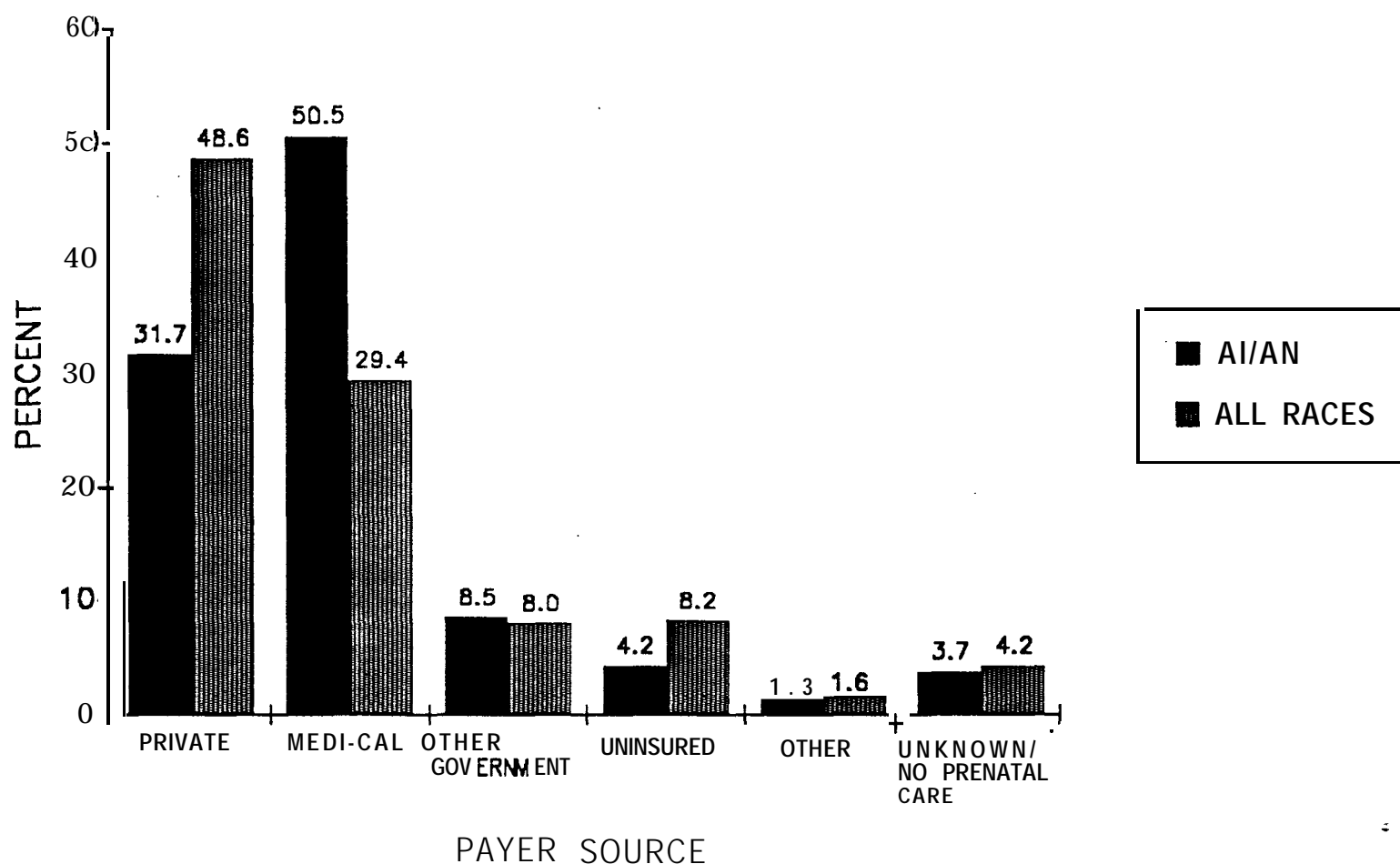
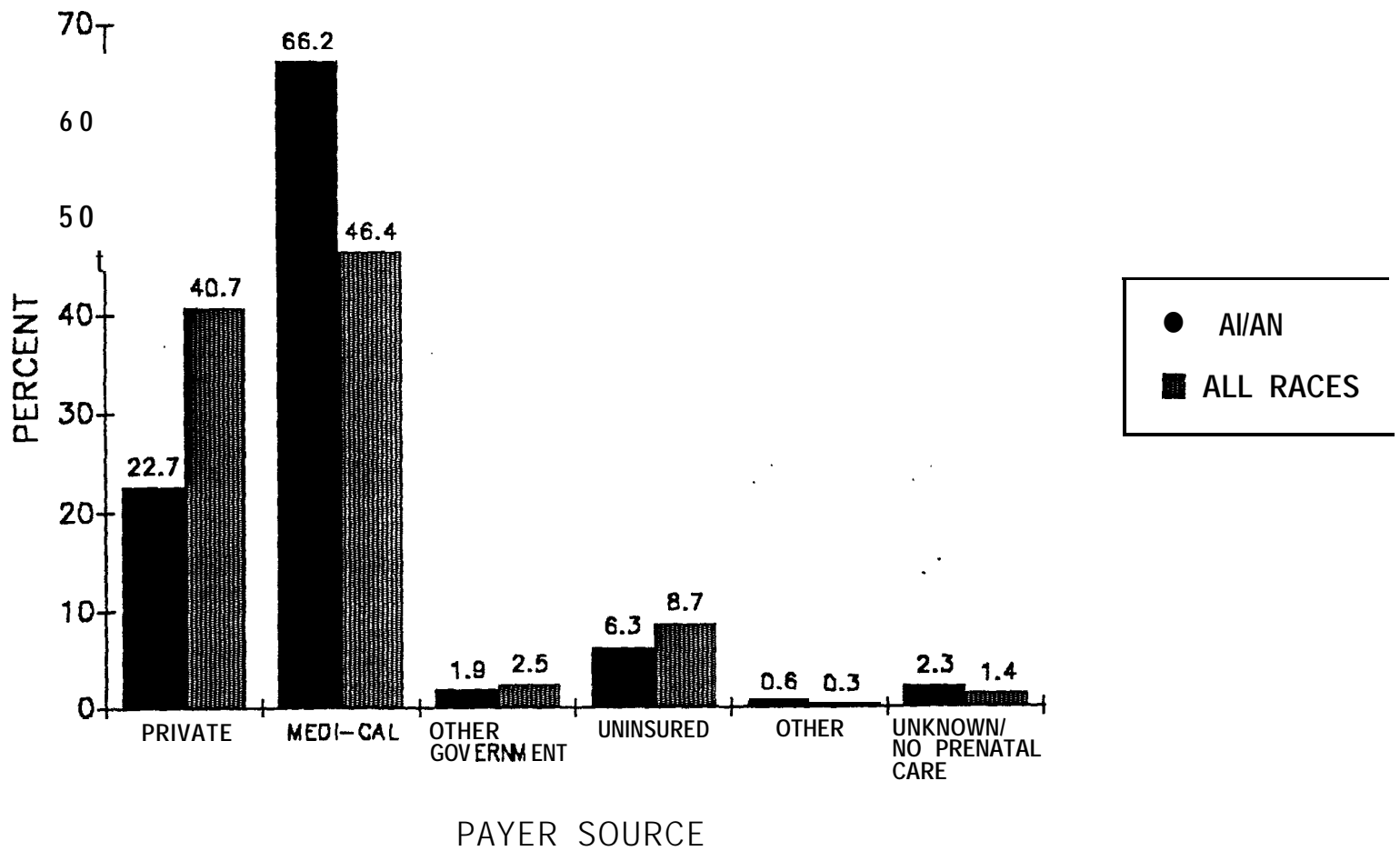


Chart 29

PRINCIPAL SOURCE OF PAYMENT FOR PRENATAL CARE  
RESIDENT LIVE BIRTHS  
AMERICAN INDIANS/ALASKA NATIVES AND ALL RACES  
NON-FEDERALLY RECOGNIZED COUNTIES  
CALIFORNIA, 1989





**Table 21**

RESIDENT LIVE BIRTHS AND INFANT DEATHS  
 INFANT(1), NEONATAL(2), AND POSTNEONATAL(3) MORTALITY RATES  
 BY RACE/ETHNICITY  
 CALIFORNIA, 1984-1986  
 (Rates per 1,000 live births)

	NUMBER LIVE BIRTHS	NUMBER INFANT DEATHS	INFANT DEATH RATE	NUMBER NEONATAL DEATHS	NEONATAL DEATH RATE	NUMBER POST- NEONATAL DEATHS	POST- NEONATAL DEATH RATE
ALL RACES	1,400,271	13,020	9.3	8,229	5.9	4,791	3.4
AMERICAN INDIAN/ ALASKA NATIVE(I) (including Hispanics)	17,723	183	10.3	93	5.3	90	5.1
ASIAN(5)	82,783	641	7.7	392	4.7	249	3.0
BLACK(5)	129,062	2,191	17.0	1,348	10.4	843	6.5
HISPANIC (excluding AI/AN)	497,863	4,200	8.4	2,745	5.5	1,455	2.9
WHITE(5)	619,250	5,246	8.5	3,259	5.3	1,987	3.2
OTHER(5)	53,590	559	10.4	392	7.3	167	3.1

(1) Deaths under one year of age.

(2) Deaths under 28 days of age.

(3) Deaths 28 days to under one year of age.

(4) AI/AN infant deaths are those linked to births certificates which have mother and/or father recorded as AI/AN.

(5) Non-Hispanic.

Source: State of California, Department of Health Services, Health Data and Statistics Branch.

Chart 30

INFANT, NEONATAL, AND POSTNEONATAL MORTALITY RATES  
BY RACE/ETHNICITY  
CALIFORNIA RESIDENTS, 1984-86  
(Rates per 1,000 live births)

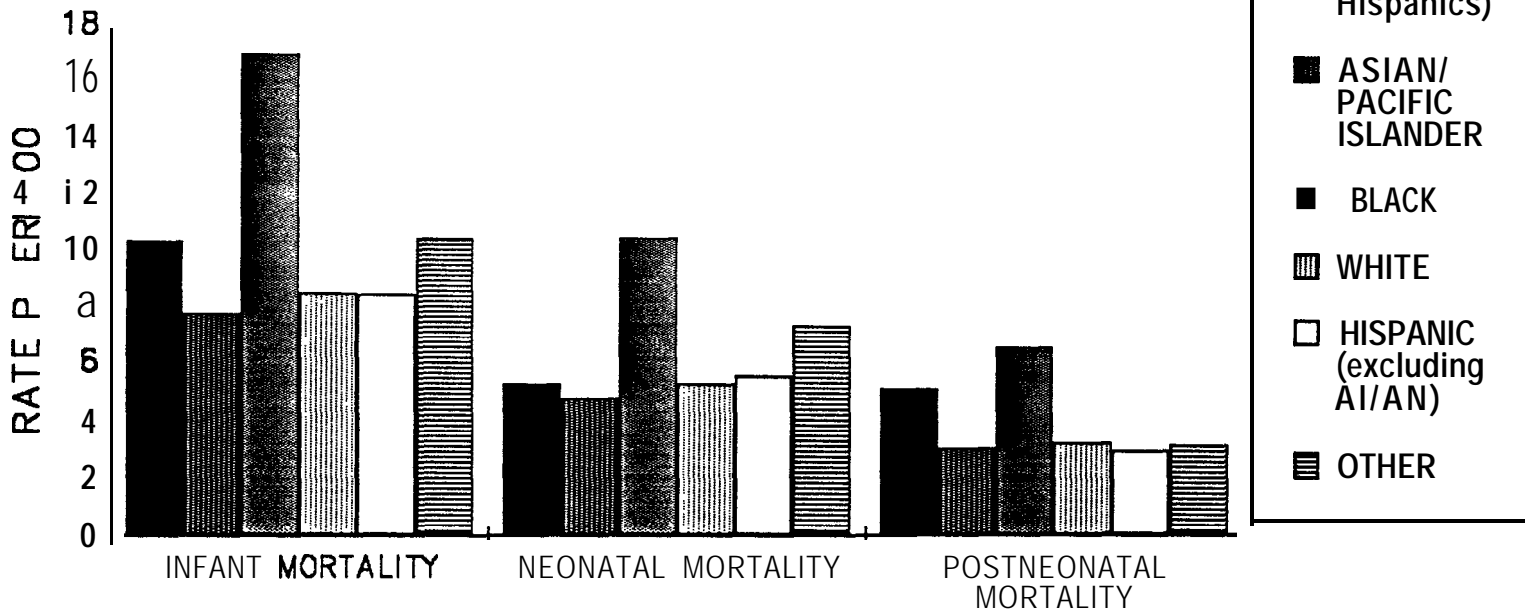


Table 22

INFANT(1), NEONATAL(2), AND POSTNEONATAL(3) MORTALITY RATES  
 AMERICAN INDIANS/ALASKA NATIVES AND ALL RACES  
 CALIFORNIA AND UNITED STATES RESIDENTS, 1984-86  
 (Rates per 1,000 live births)

	CALIFORNIA		UNITED STATES	
	AMERICAN INDIAN/ ALASKA NATIVE(4) 1984-86	ALL RACES 1984-86	AMERICAN INDIAN/ ALASKA NATIVE(S) 1984-86	ALL RACES 1985
INFANT	10.3	9.3	9.7	10.6
NEONATAL	5.2	5.9	4.4	7 . 0
POSTNEONATAL	5.1	3.4	5.2	3.7

(1) Deaths under one year of age per 1,000 live births.

(2) Deaths under 28 days of age per 1,000 live births.

(3) Deaths 28 days to under one year of age per 1,000 live births minus neonatal deaths.

(4) AI/AN infant deaths for California are those linked to birth certificates which have mother and/or father recorded as AI/AN, including Hispanics.

(5) AI/AN infant deaths for the U.S. are those with death certificates coded as AI/AN, including Hispanics. In 1983, the U.S. AI/AN infant mortality rate based on this definition was 10.7; using linked records to identify AI/AN births, the rate increased to 14.4.

Source: State of California, Department of Health Services,, Health Data and Statistics Branch.  
 National Center for Health Statistics.

**Chart 31**

INFANT, NEONATAL, AND POSTNEONATAL MORTALITY RATES  
AMERICAN INDIANS/ALASKA NATIVES AND ALL RACES  
CALIFORNIA AND UNITED STATES RESIDENTS, 1984-86  
(Rates per 1,000 live births)

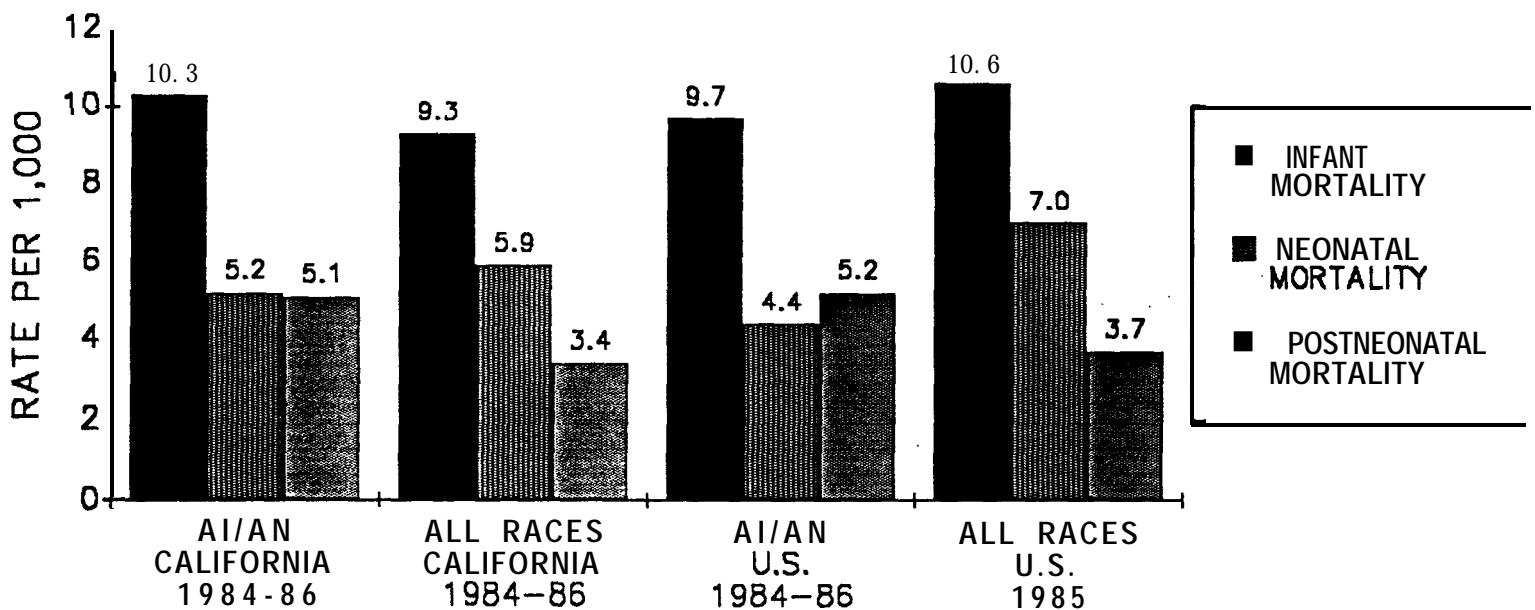


Table 23

INFANT DEATHS(1) BY BIRTHWEIGHT  
 AMERICAN INDIANS/ALASKA NATIVES(2) AND ALL RACES  
 CALIFORNIA RESIDENTS, 1984-86

BIRTHWEIGHT	AMERICAN INDIAN/ ALASKA NATIVE		ALL RACES	
	NUMBER	PERCENT	NUMBER	PERCENT
TOTAL	183	<b>100.0(3)</b>	13,020	100.0
<1,500 grams	62	33.9	5,414	41.6
1,500-2,499 grams	25	13.7	1,885	14.5
2,500-3,999 grams	84	45.9	4,785	36.8
4,000+ grams	9	4.9	453	3.5
Unknown	3	1.6	483	3.7

(1) Deaths under one year of age.

(2) AI/AN infant deaths for California are those linked to birth certificates which have mother and/or father recorded as AI/AN, including Hispanics.

(3) Percentages may not sum to 100.0% due to independent rounding.

Source: State of California, Department of Health Services, Health Data and Statistics Branch.

Chart 32

INFANT DEATHS BY BIRTHWEIGHT  
AMERICAN INDIANS/ALASKA NATIVES  
CALIFORNIA RESIDENTS, 1984-86

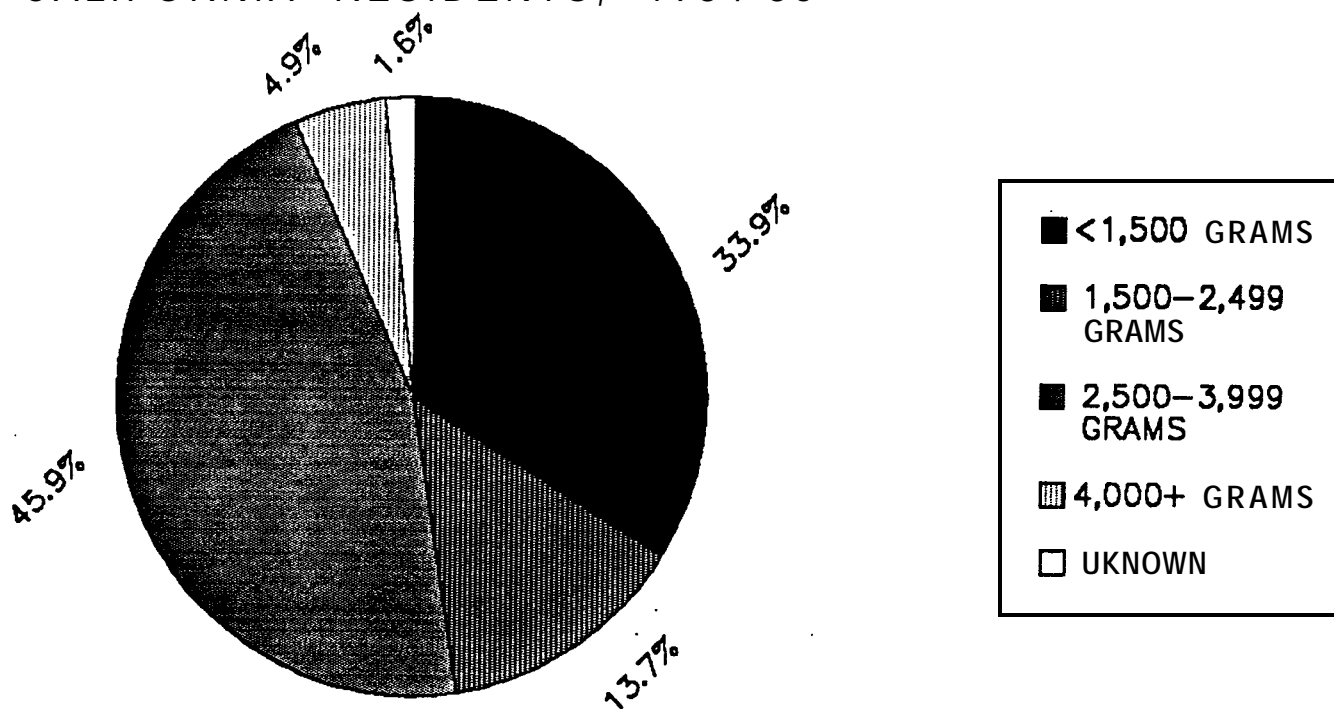


Chart 33

INFANT DEATHS BY BIRTHWEIGHT  
ALL RACES  
CALIFORNIA RESIDENTS, 1984-86

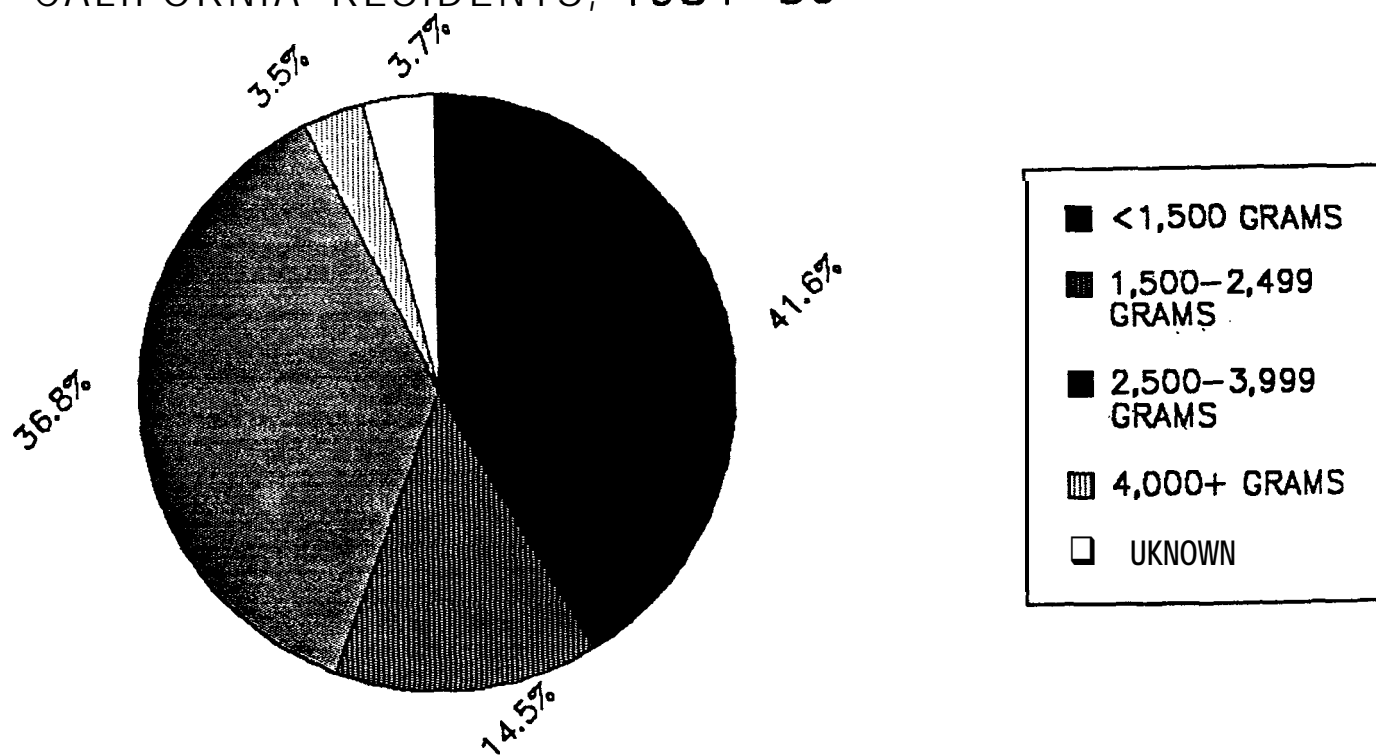


Table 24

DEATHS BY AGE AND SEX  
AMERICAN INDIANS/ALASKA NATIVES AND ALL RACES  
CALIFORNIA AND UNITED STATES RESIDENTS, 1986-88

AMERICAN INDIAN/ALASKA NATIVE  
CALIFORNIA, 1986-88

	TOTAL (1,898)	FEMALE (813)	MALE (1,085)
AGE	PERCENT	PERCENT	PERCENT
ALL AGES	100.0 (1)	100.0	100.0
<5	4.6	4.4	4.7
5-24	6.6	5.7	7.4
25-44	17.2	12.5	20.6
45-64	28.2	27.9	28.4
65+	43.3	49.3	38.8
Unknown	0.1	0.1	0.1

ALL RACES  
CALIFORNIA, 1986-88

	TOTAL (627,406)	FEMALE (297,610)	MALE (329,796)
AGE	PERCENT	PERCENT	PERCENT
ALL AGES	100.0	100.0	100.0
<5	2.6	2.3	2.8
5-24	2.7	1.4	3.8
25-44	8.0	4.6	11.0
45-64	18.5	15.1	21.5
65+	68.3	76.6	60.8
Unknown	0.1	0.0	0.1

(continued)



Table 24 (continued)

AMERICAN INDIAN/ALASKA NATIVE U.S., 1986-88			
	T O T A L (21,943)	FEMALE (9,055)	MALE (12,888)
AGE	PERCENT	PERCENT	PERCENT
ALL AGES	100.0	100.0	100.0
<b>&lt;5</b>	7.1	7.7	6.8
5-24	8.8	5.6	11.1
25-44	16.7	12.4	19.6
45-64	24.4	23.7	24.9
<b>65+</b>	42.9	50.5	37.5
Unknown	0.1	0.1	0.1

ALL RACES U.S., 1987	
TOTAL (2,123,323)	
AGE	PERCENT
ALL AGES	100.0
<b>&lt;5</b>	2.2
5-24	2.2
25-44	6.2
45-64	18.4
<b>65+</b>	71.1
Unknown	0.0

(1) Percentages may not sum to 100.0% due to independent rounding.

Source: State of California, Department of Health Services, Health Data  
and Statistics Branch.  
National Center for Health Statistics.

Chart 34

DEATHS BY AGE  
AMERICAN INDIANS/ALASKA NATIVES  
FEMALE  
CALIFORNIA RESIDENTS, 1986-88

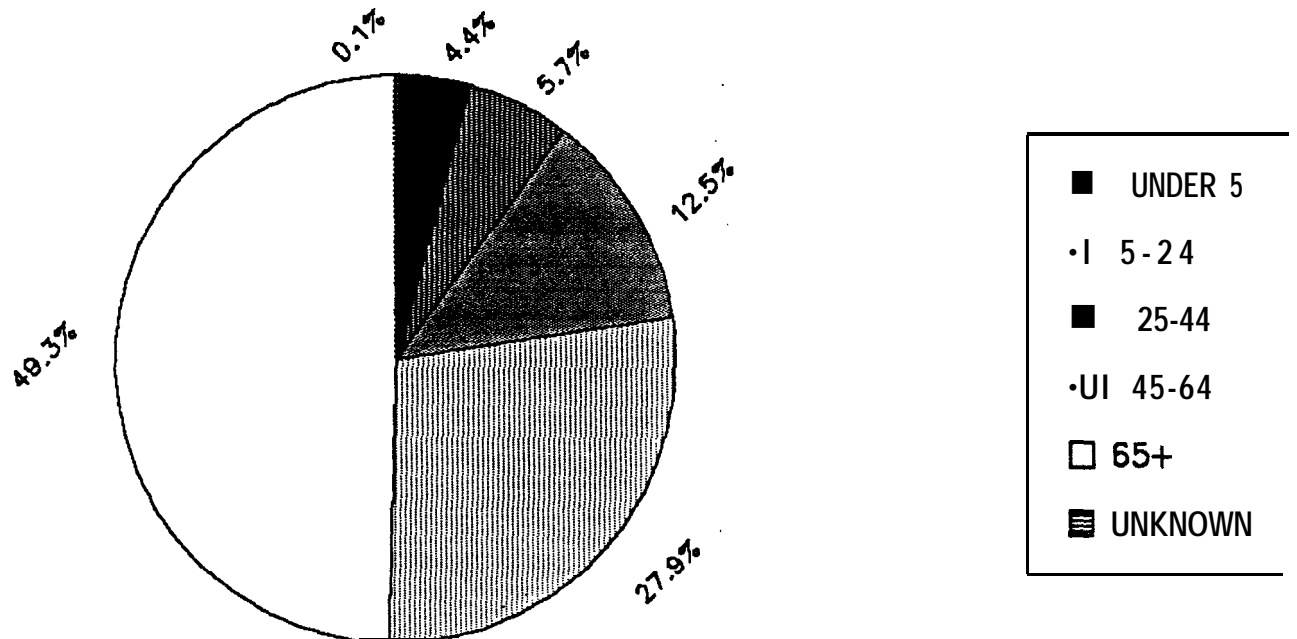


Chart 35

DEATHS BY AGE  
ALL RACES  
FEMALE  
CALIFORNIA RESIDENTS, 1986-88

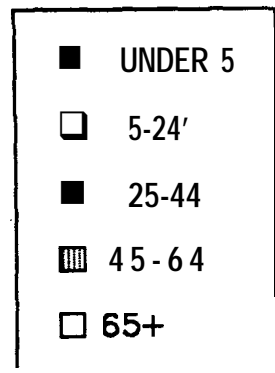
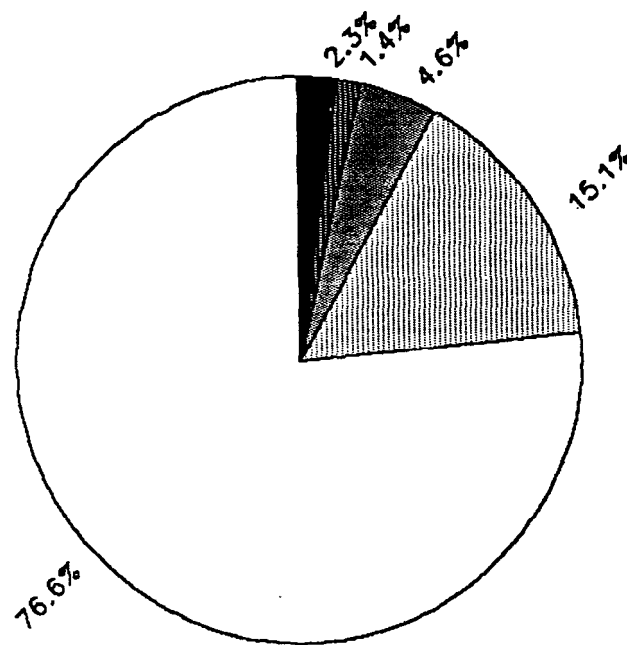


Chart 36

DEATHS BY AGE  
AMERICAN INDIANS/ALASKA NATIVES  
MALE  
CALIFORNIA RESIDENTS, 1986-88

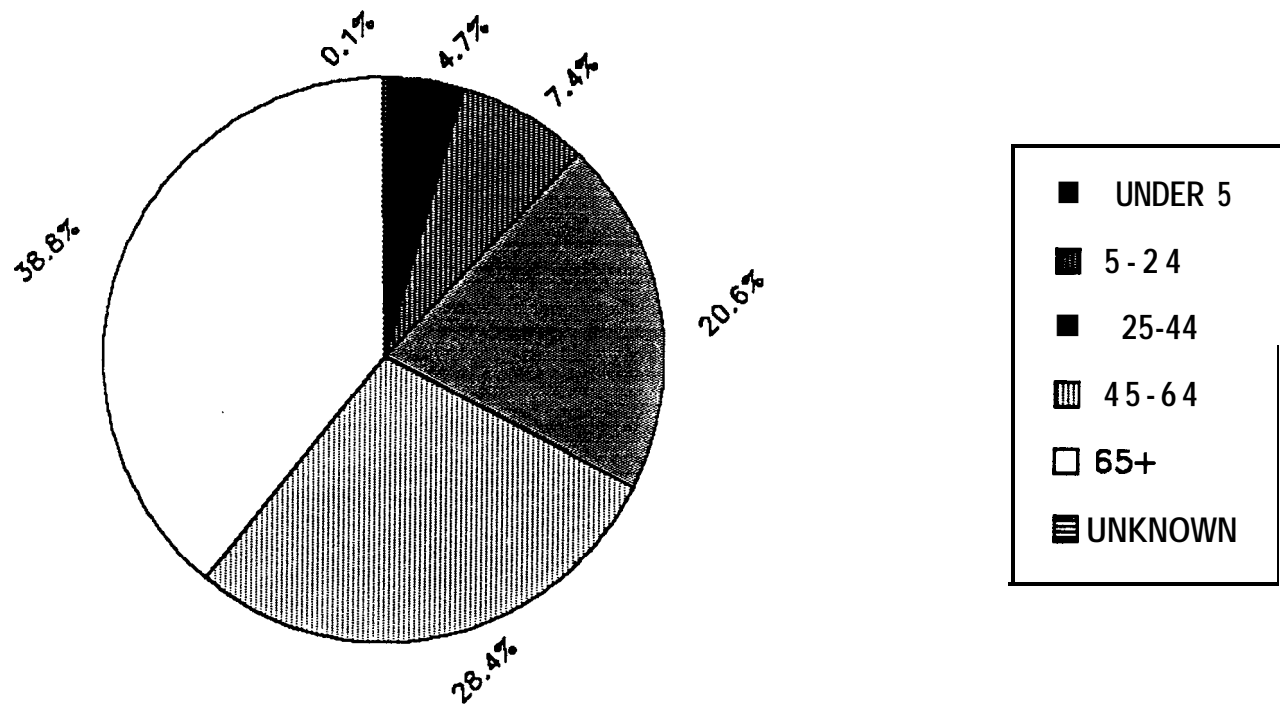


Chart 37

DEATHS BY AGE  
ALL RACES  
MALE  
CALIFORNIA RESIDENTS, 1986-88

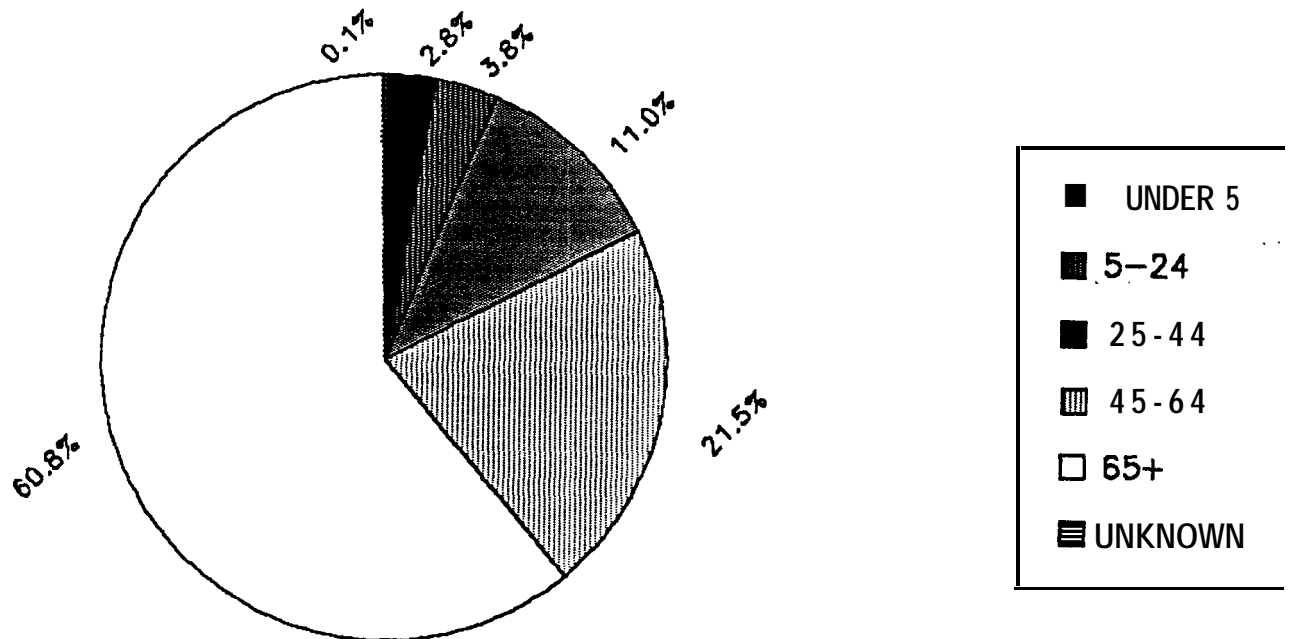


Table 25

SMOKING-ATTRIBUTABLE MORTALITY BY SEX  
 AMERICAN INDIANS/ALASKA NATIVES AND ALL RACES  
 CALIFORNIA RESIDENTS, 1986-88

	AMERICAN INDIAN/ ALASKA NATIVE		ALL RACES	
	FEMALE	MALE	FEMALE	MALE
TOTAL NUMBER OF DEATHS	813	1,085	297,610	329,796
NUMBER OF SMOKING-ATTRIBUTABLE DEATHS(1)	339	406	37,046	58,786
SMOKING-ATTRIBUTABLE DEATHS AS PERCENT OF TOTAL DEATHS	41.7	37.4	12.4	17.8

(1) Calculated according to methodology reported by Office on Smoking and Health, Center for Health Promotion and Education, Centers for Disease Control, in Morbidity and Mortality Weekly Report, Vol. 36, No. 42, October 30, 1987, pp. 693-7.

Source: State of California, Department of Health Services, Health Data and Statistics Branch.

Table 26

ALCOHOL-RELATED MORTALITY BY SEX  
 AMERICAN INDIANS/ALASKA NATIVES AND ALL RACES  
 CALIFORNIA RESIDENTS, 1986-38

	AMERICAN INDIAN/ ALASKA NATIVE		ALL RACES	
	FEMALE	MALE	FEMALE	MALE
TOTAL NUMBER GF DEATHS	813	1,085	297,610	329,796
NUMBER OF ALCOHOL-RELATED DEATHS(1)	273	457	12,892	27,579
ALCOHOL-RELATED DEATHS AS PERCENT OF TOTAL DEATHS	33.6	42.1	4.3	8.4

(1) Calculated according to methodology reported by JM Shultz, DP Rice, and DL Parker, in Morbidity and Mortality Weekly Report, Vol. ' 39, No. 11, March 23, 1990, pp. 173-87.

Source: State of California, Department of Health Services, Health Data and Statistics Branch.

Table 27

10 LEADING CAUSES OF DEATH  
 AMERICAN INDIANS/ALASKA NATIVES  
 FEMALE AND MALE  
 ALL 58 COUNTIES  
 CALIFORNIA RESIDENTS, 1986-88

CAUSE OF DEATH(1)	NUMBER	PERCENT
ALL CAUSES	1,898	100.0(2)
Diseases of the heart	484	25.5
Malignant neoplasms	306	16.1
Accidents	240	12.5
Motor vehicle	138	7.3
Other	102	5.4
chronic liver disease and cirrhosis	127	6.7
Cerebrovascular disease	94	5.0
Homicide and legal intervention	65	3.4
Diabetes mellitus	59	3.1
Pneumonia and influenza	59	3.1
Suicide	49	2.6
Chronic obstructive pulmonary diseases	49	2.6
All Other Causes	366	19.3

(1) See Appendix 5 for categories from International Classification of Diseases, 9th Revision, used to define underlying causes of death according to methodology of Indian Health Service, Office of Planning, Evaluation, and Legislation.

(2) Percentages may not sum to 100.0% due to independent rounding.

Source: State of California, Department of Health- Services, Health Data and Statistics Branch.



Table 28

10 LEADING CAUSES OF DEATH  
ALL RACES  
FEMALE AND MALE  
ALL 58 COUNTIES  
CALIFORNIA RESIDENTS, 1986-88

CAUSE OF DEATH(1)	NUMBER	PERCENT
ALL CAUSES	627,406	<b>100.0(2)</b>
Diseases of the heart	208,123	33.1
Malignant neoplasms	141,478	22.5
Cerebrovascular disease	46,782	7.5
Accidents	32,188	5.1
Motor vehicle	16,949	2.7
Other	15,239	2.4
Chronic obstructive pulmonary diseases	27,156	4.3
Pneumonia and influenza	25,247	4.0
Chronic liver disease and cirrhosis	12,074	1.9
Suicide	11,819	1.9
Diabetes mellitus	9,727	1.6
Homicide and legal intervention	9,264	1.5
All Other Causes(3)	103,548	16.6

- (1) See Appendix 5 for categories from International Classification of Diseases, 9th Revision, used to define underlying causes of death according to methodology of Indian Health Service, Office of Planning, Evaluation, and Legislation.
- (2) Percentages may not sum to 100.0% due to independent rounding.
- (3) Includes "Other diseases of the nervous system and sense organs" (1.6%), which would have ranked among the 10 leading causes of death for this group but was not included in the IHS methodology.

Source: State of California, Department of Health Services, Health Data and Statistics Branch.

Table 29

10 LEADING CAUSES OF DEATH  
AMERICAN INDIANS/ALASKA NATIVES.  
FEMALE AND MALE  
UNITED STATES RESIDENTS, 1986-88

CAUSE OF DEATH(1)	NUMBER	PERCENT
ALL CAUSES	21,943	<b>100.0(2)</b>
Diseases of the heart	5,078	23.1
Accidents	3,533	16.1
Motor vehicle	2,032	9.3
Other	1,501	6.8
Malignant neoplasms	3,011	13.7
Cerebrovascular disease	1,003	4.6
Chronic liver disease and cirrhosis	934	4.3
Diabetes mellitus	798	3.6
Pneumonia and influenza	740	3.4
Homicide and legal intervention	654	3.0
Suicide	653	3.0
Chronic obstructive pulmonary diseases	474	2.2
All Other Causes	5,065	23.0

(1) See Appendix 5 for categories from International Classification of Diseases, 9th Revision, used to define underlying causes of death according to methodology of Indian Health Service, Office of Planning, Evaluation, and Legislation.

(2) Percentages may not sum to 100.0% due to independent rounding.

Source: Indian Health Service, Office of Planning, Evaluation, and Legislation.  
National Center for Health Statistics.

Table 30

10 LEADING CAUSES OF DEATH  
AMERICAN INDIANS/ALASKA NATIVES  
FEMALE  
ALL 58 COUNTIES  
CALIFORNIA RESIDENTS, 1986-88

CAUSE OF DEATH(1)	PERCENT
ALL CAUSES (813 deaths)	100.0(2)
Diseases of the heart	24.8
Malignant neoplasms	18.5
Accidents	8.4
Motor vehicle	4.8
Other	3.6
Suicide	7.1
Chronic liver disease and cirrhosis	6.9
Cerebrovascular disease	6.3
Diabetes mellitus	4.6
Pneumonia and influenza	3.3
Chronic obstructive pulmonary diseases	2.4
Nephritis, <b>nephrotic</b> syndrome and nephrosis	1.9
All Other Causes(3)	15.8

- (1) See Appendix 5 for categories from International Classification of Diseases, 9th Revision, used to define underlying causes of death according to methodology of Indian Health Service, Office of **Planning**, Evaluation, and Legislation.
- (2) Percentages may not sum to 100.0% due to independent rounding.
- (3) Includes "Mental disorders" (**2.1%**), which would have ranked among the 10 leading causes of death for this group but was not included in the IHS methodology.

Source: State of California, Department of Health Services, Health Data and Statistics Branch.

Table 31

10 LEADING CAUSES OF DEATH  
ALL RACES  
FEMALE  
ALL 58 COUNTIES  
CALIFORNIA RESIDENTS, 1986-88

CAUSE OF DEATH(1)	PERCENT
ALL CAUSES (297,610 deaths)	<b>100.0(2)</b>
Diseases of the heart	34.5
Malignant neoplasms	22.9
Cerebrovascular disease	9.6
Pneumonia and influenza	4.6
Chronic obstructive pulmonary diseases	4.2
Accidents	3.1
Other	1 . 6
Motor vehicle	1.5
Diabetes mellitus	1.9
Atherosclerosis	1.5
Chronic liver disease and cirrhosis	1.4
'Suicide	0.9
All Other Causes(3)	15.4

- (1) See Appendix 5 for categories from International Classification of Diseases, 9th Revision, used to define underlying causes of death according to methodology of Indian Health Service, Office of Planning, Evaluation, and Legislation.
- (2) Percentages may not sum to 100.0% due to independent rounding.
- (3) Includes **"Other** diseases of the nervous system and sensory organs" (1.7%) and **"Other** diseases of the digestive **system"** (1.6%), which would have ranked among the 10 leading causes of death for this group but were not included in the IHS methodology.

Source: State of California, Department of Health Services, Health Data and Statistics Branch.

Table 32

10 LEADING CAUSES OF DEATH  
AMERICAN INDIANS/ALASKA NATIVES  
MALE  
ALL 58 COUNTIES  
CALIFORNIA RESIDENTS, 1986-88

CAUSE OF DEATH(1)	PERCENT
ALL CAUSES (1,085 deaths)	<b>100.0(2)</b>
Diseases of the heart	26.0
Accidents	15.9
Motor vehicle	9.1
Other	6.7
Malignant neoplasms	14.4
Homicide and legal intervention	8.3
Chronic liver disease and cirrhosis	6.5
Cerebrovascular disease.'	4 . 0
Suicide	3.2'
Pneumonia and influenza	3.0
Chronic obstructive pulmonary diseases	2.8
Diabetes mellitus	2.0
'All Other Causes(3)	14.0

- (1) See Appendix 5 for categories from International Classification of Diseases, 9th Revision, used to define underlying causes of death according to methodology of Indian Health Service, Office of Planning, Evaluation, and Legislation.
- (2) Percentages may not sum to 100.0% due to independent rounding.
- (3) Includes **"Mental disorders" (2.1%)**, which would have ranked among the 10 leading causes of death for this group but was not included in the IHS methodology.

Source: State of California, Department of Health Services, Health Data and Statistics Branch.

Table 33

10 LEADING CAUSES OF DEATH  
ALL RACES  
MALE  
ALL 58 COUNTIES  
CALIFORNIA RESIDENTS, 1986-88

CAUSE OF DEATH(1)	PERCENT	
ALL CAUSES (329,796 deaths)	<b>100.0</b>	<b>(2)</b>
Diseases of the heart	32.0	
Malignant neoplasms	22.2	
Accidents	7.0	
Motor vehicle	3.8	
Other	3.2	
Cerebrovascular disease	5.6	
Chronic obstructive pulmonary diseases	<b>4.5</b>	
Pneumonia and influenza	3.5	
Suicide	2.7	
Chronic liver disease and cirrhosis	2.4	
Homicide and legal intervention	2.2	..
AIDS	1.7	
All Other Causes	16.2	

(1) See Appendix 5 for categories from International Classification of Diseases, 9th Revision, used to define underlying causes of death according to methodology of Indian Health Service, **Office** of Planning, Evaluation, and Legislation.

(2) Percentages may not sum to 100.0% due to independent rounding.

Source: State of California, Department of Health Services, Health Data and Statistics Branch.

Table 34

10 LEADING CAUSES OF DEATH  
AMERICAN INDIANS/ALASKA NATIVES  
FEMALE AND MALE  
FEDERALLY RECOGNIZED COUNTIES  
CALIFORNIA RESIDENTS, 1986-88

CAUSE OF DEATH(1)	PERCENT
ALL CAUSES (484 deaths)	<b>100.0(2)</b>
Diseases of the heart	22.3
Malignant neoplasms	15.4
Accidents	13.8
Motor vehicle	8.3
Other	5.6
Cerebrovascular disease	5.6
Homicide and legal intervention	5.5
Chronic liver disease and cirrhosis	5.2
Diabetes mellitus	4.8
Pneumonia and influenza	2.9
Chronic obstructive pulmonary diseases	2.5
Suicide	2.3
All Other Causes(3)	19.7

- (1) See Appendix 5 for categories from International Classification of Diseases, 9th Revision, used to define underlying causes of death according to methodology of Indian Health Service, Office of Planning, Evaluation, and Legislation.
- (2) Percentages may not sum to 100.0% due to independent rounding.
- (3) Includes **"Mental disorders" (2.3%)**, which would have ranked among the 10 leading causes of death for this group but was not included in the IHS methodology.

Source: State of California, Department of Health Services, Health Data and Statistics Branch.

Table 35

10 LEADING CAUSES OF DEATH  
ALL RACES  
FEMALE AND MALE  
FEDERALLY RECOGNIZED COUNTIES  
CALIFORNIA RESIDENTS, 1986-88

CAUSE OF DEATH(1)	PERCENT
ALL CAUSES (104,966 deaths)	<b>100.0(2)</b>
Diseases of the heart	32.3
Malignant neoplasms	22.4
Cerebrovascular disease	7.5
Accidents	5.6
Motor vehicle	3.3
Other	2.3
Chronic obstructive pulmonary diseases	5.0
Pneumonia and influenza	4.3
Suicide	2.0
Chronic liver disease and cirrhosis	1.8
Diabetes mellitus	1.4
Homicide and legal intervention	1.2
All Other Causes(3)	16.5

- (1) See Appendix 5 for categories from International Classification of Diseases, 9th Revision, used to define underlying causes of death according to methodology of Indian Health Service, Office of Planning, Evaluation, and Legislation.
- (2) Percentages may not sum to 100.0% due to independent rounding.
- (3) Includes "Other diseases of the nervous system and sense organs" (1.6%), which would have ranked among the 10 leading causes of death for this group but was not included in the IHS methodology.

Source: State of California, Department of Health Services, Health Data and Statistics Branch.



Table 36

10 LEADING CAUSES OF DEATH  
AMERICAN INDIANS/ALASKA NATIVES  
FEMALE  
FEDERALLY RECOGNIZED COUNTIES  
CALIFORNIA RESIDENTS, 1986-88

CAUSE OF DEATH(1)	PERCENT
ALL CAUSES (195 deaths)	100.0(2)
Diseases of the heart	24.6
Malignant neoplasms	17.4
Diabetes mellitus	8.2
Cerebrovascular disease	6.7
Accidents	6.2
Motor vehicle	4.1
Other	2.1
Chronic liver disease and cirrhosis	4.6
Hypertension	2.6
Nephritis, <b>nephrotic</b> syndrome, and nephrosis	2.6
Pneumonia and influenza	2.6
Homicide and legal intervention	2.1
All Other Causes(3)	22.4

- (1) See Appendix 5 for categories from International Classification of Diseases, 9th Revision, used to define underlying causes of death according to methodology of Indian Health Service, Office of Planning, Evaluation, and Legislation.
- (2) Percentages may not sum to 100.0% due to independent rounding.
- (3) Includes **"Mental disorders" (2.1%)**, **"Other diseases of the digestive system" (2.1%)**, and **"Other diseases of the respiratory system" (2.1%)**, which would have ranked among the 10 leading causes of death for this group but were not included in the IHS methodology.

Source: State of California, Department of Health Services, Health Data and Statistics Branch.

Table 37

10 LEADING CAUSES OF DEATH  
ALL RACES  
FEMALE  
FEDERALLY RECOGNIZED COUNTIES  
CALIFORNIA RESIDENTS, 1986-88

CAUSE OF DEATH(1)	PERCENT
ALL CAUSES (48,981 deaths)	100.0(2)
Diseases of the heart	33.1
Malignant neoplasms	22.7
Cerebrovascular disease	9.8
Pneumonia and influenza	4.9
Chronic obstructive pulmonary diseases	4.8
Accidents	3.3
Motor vehicle	1.8
Other	1.5
Diabetes mellitus	1.8
Atherosclerosis	1.4
Chronic liver disease and cirrhosis	1.4
Certain conditions originating in the perinatal period	0.9
All Other Causes(3)	15.9

- (1) See Appendix 5 for categories from International Classification of Diseases, 9th Revision, used to define underlying causes of death according to methodology of Indian Health Service, Office, of Planning, Evaluation, and Legislation.
- (2) Percentages may not sum to 100.0% due to independent rounding.
- (3) Includes **"Other** diseases of the nervous system and sense **organs" (1.7%)**, and **"Other** diseases of the digestive system" (1.6%) which would have ranked among the 10 leading causes of death for this group but were not included in the IHS methodology.

Source: State of California, Department of Health Services, Health Data and Statistics Branch.

Table 38

10 LEADING CAUSES OF DEATH  
 AMERICAN INDIANS/ALASKA NATIVES  
 MALE  
 FEDERALLY RECOGNIZED COUNTIES  
 CALIFORNIA RESIDENTS, 1986-88

CAUSE OF DEATH(1)	PERCENT
ALL CAUSES (289 deaths)	<b>100.0(2)</b>
Diseases of the heart	20.8
Accidents	19.0
Motor vehicle	11.0
Other	8.0
Malignant neoplasms	14.2
Homicide and legal intervention	6.2
Chronic liver disease and cirrhosis	5.5
Cerebrovascular disease	4.8
Chronic obstructive pulmonary diseases	3.1.
Pneumonia and influenza	3.1
Suicide	2 . 8
Diabetes mellitus	2.4
All Other Causes(3)	18.0

- (1) See Appendix 5 for categories from International Classification of Diseases, 9th Revision, used to define underlying causes of death according to methodology of Indian Health Service, Office of Planning, Evaluation, and Legislation.
- (2) Percentages may not sum to 100.0% due to independent rounding.
- (3) Includes **"Mental disorders" (2.4%)**, which would **have ranked** among the 10 leading causes of death for this group but was not included in the IHS methodology.

Source: State of California, Department of Health Services, Health Data and Statistics Branch.

Table 39

10 LEADING CAUSES OF DEATH.  
ALL RACES  
MALE  
FEDERALLY RECOGNIZED COUNTIES  
CALIFORNIA RESIDENTS, 1986-88

CAUSE OF DEATH(1)	PERCENT	
ALL CAUSES (55,985 deaths)	100.0(2)	
Diseases of the heart	31.7	
Malignant neoplasms	22.3	
Accidents	7.6	
Motor vehicle	4.6	
Other	3.0	
Cerebrovascular disease	5.5	
Chronic obstructive pulmonary diseases	5.1	
Pneumonia and influenza	3.8	
Suicide	3.0	
Chronic liver disease and cirrhosis	2.2	
Homicide and legal intervention	1.8	.. . .
Diabetes mellitus	1.2	
All Other Causes(3)	15.8	

(1) See Appendix 5 for categories from International Classification of Diseases, 9th Revision, used to define underlying causes of death according to methodology of Indian Health Service, Office of Planning, Evaluation, and Legislation.

(2) Percentages may not sum to 100.0% due to independent rounding.

(3) Includes **"Other** diseases of the nervous system and sense **organs"** (1.6%), which would have ranked among the 10 leading causes of death for this group but was not included in the IHS methodology.

Source: State of California, Department of Health Services, Health Data and Statistics Branch.

Table 40

10 LEADING CAUSES OF DEATH  
AMERICAN INDIANS/ALASKA NATIVES  
FEMALE AND MALE  
NON-FEDERALLY RECOGNIZED COUNTIES  
CALIFORNIA RESIDENTS, 1986-88

CAUSE OF DEATH(1)	PERCENT
ALL CAUSES (214 deaths)	<b>100.0(2)</b>
Diseases of the heart	29.4
Accidents	17.3
Motor vehicle	10.3
Other	7.0
Malignant neoplasms	10.7
Cerebrovascular disease	5.6
Chronic liver disease and cirrhosis	5.6
Homicide	4.7
Diabetes mellitus	4.2
Pneumonia and influenza	3.7
Chronic obstructive pulmonary diseases	1.9
Nephritis, <b>nephrotic</b> syndrome, and nephrosis	1.9
Congenital anomalies	1.9
All Other Causes	13.1

(1) See Appendix 5 for categories from International Classification of Diseases, 9th Revision, used to define underlying causes of death according to methodology of Indian Health Service, Office of Planning, Evaluation, and Legislation.

(2) Percentages may not sum to 100.0% due to independent rounding.

Source: State of California; Department of Health Services, Health Data and Statistics Branch.

Table 41

10 LEADING CAUSES OF DEATH ·  
ALL RACES  
FEMALE AND MALE  
NON-FEDERALLY RECOGNIZED COUNTIES  
CALIFORNIA RESIDENTS, 1986-88

CAUSE OF DEATH(1)	PERCENT
ALL CAUSES (41,870 deaths)	<b>100.0(2)</b>
Diseases of the heart	31.4
Malignant neoplasms	22.5
Cerebrovascular disease	7.2
Accidents	6.5
Motor vehicle	3.9
Other	2.6
Chronic obstructive pulmonary diseases	4.9
Pneumonia and influenza	3.7
Suicide	2.0
Diabetes mellitus	1.8
Chronic liver disease and cirrhosis	1.7
Atherosclerosis	1.3
All Other Causes(3)	17.0

- (1) See Appendix 5 for categories from International Classification of Diseases, 9th Revision, used to define underlying causes of death according to methodology of Indian Health Service, Office of Planning, Evaluation, and Legislation.
- (2) Percentages may not sum to 100.0% due to independent rounding.
- (3) Includes "Other diseases of the digestive **system**" (1.7%), which would have ranked among the 10 leading causes of death for this group but was not included in the IHS methodology.

Source: State of California, Department of Health Services, Health Data and Statistics Branch.

Table 42

10 LEADING CAUSES OF DEATH  
AMERICAN INDIANS/ALASKA NATIVES  
FEMALE  
NON-FEDERALLY RECOGNIZED COUNTIES  
CALIFORNIA RESIDENTS, 1986-88

CAUSE OF DEATH(1)	PERCENT
ALL CAUSES (95 deaths)	<b>100.0(2)</b>
Diseases of the heart	26.3
Malignant neoplasms	13.7
Cerebrovascular disease	8.4
Diabetes mellitus	7.4
Chronic liver disease and cirrhosis	5.3
Accidents	4.2
Motor vehicle	0.0
Other	4.2
Homicide and legal intervention	3.2
Pneumonia and influenza	3.2
Nephritis, <b>nephrotic</b> syndrome, and nephrosis	3.2
Suicide	2.1
Congenital anomalies	2.1
All Other Causes(3)	20.9

- (1) See Appendix 5 for categories from International Classification of Diseases, 9th Revision, used to define underlying causes of death according to methodology of Indian Health Service, Office of Planning, Evaluation, and Legislation.
- (2) Percentages may not sum to 100.0% due to independent rounding.
- (3) Includes **"Symptoms, signs and ill-defined conditions"** (6.3%), which would have ranked among the 10 leading causes of death for this group but was not included in the IHS methodology.

Source: State of California, Department of Health Services, Health Data and Statistics Branch.

Table 43

10 LEADING CAUSES OF DEATH  
ALL RACES  
FEMALE  
NON-FEDERALLY RECOGNIZED COUNTIES  
CALIFORNIA RESIDENTS, 1986-88

CAUSE OF DEATH(1)	PERCENT
ALL CAUSES (18,981 deaths)	<b>100.0(2)</b>
Diseases of the heart	32.1
Malignant neoplasms	22.4
Cerebrovascular disease	9.3
Chronic obstructive pulmonary diseases	4.6
Pneumonia and influenza	4.2
Accidents	4.1
Motor vehicle	2.3
Other	1.8
Diabetes mellitus	2.4
Atherosclerosis	1.7
Chronic liver disease and cirrhosis	1.3
'Nephritis, <b>nephrotic</b> syndrome, and nephrosis	1.1
All Other Causes(3)	16.8

- (1) See Appendix 5 for categories from International Classification of Diseases, 9th Revision, used to define underlying causes of death according to methodology of Indian Health Service, Office of Planning, Evaluation, and Legislation.
- (2) Percentages may not sum to 100.0% due to independent rounding.
- (3) Includes **"Other** diseases of the digestive **system" (1.9%)**, and **"Other** diseases of the nervous system and sense **organs" (1.7%)**, which would have ranked among the 10 leading causes of death for this group but were not included in IHS methodology.

Source: State of California, Department of Health Services, Health Data and Statistics Branch.



Table 44

10 LEADING CAUSES OF DEATH  
AMERICAN INDIANS/ALASKA NATIVES  
MALE  
NON-FEDERALLY RECOGNIZED COUNTIES  
CALIFORNIA RESIDENTS, 1986-88

CAUSE OF DEATH(1)	PERCENT
ALL CAUSES (119 deaths)	<b>100.0(2)</b>
Diseases of the heart	<b>31.9</b>
Accidents	22.7
Motor vehicle	13.5
Other	9.2
Malignant neoplasms	8.4
Homicide and legal intervention	5.9
Chronic liver disease and cirrhosis	5.9
Pneumonia and influenza	4.2
Chronic obstructive pulmonary diseases	3.4
Cerebrovascular disease	3.4
Diabetes mellitus	1 . 7
Congenital anomalies	1.7
Conditions originating in the perinatal period	1.7
All Other Causes	9.3

(1) See Appendix 5 for categories from International Classification of Diseases, 9th Revision, used to define underlying causes of death according to methodology of Indian Health Service, Office of Planning, Evaluation, and Legislation.

(2) Percentages may not sum to 100.0% due to independent rounding.

Source: State of California, Department of Health Services, Health Data and Statistics Branch.

Table 45

10 LEADING CAUSES OF DEATH  
ALL RACES  
MALE  
NON-FEDERALLY RECOGNIZED COUNTIES  
CALIFORNIA RESIDENTS, 1986-88

CAUSE OF DEATH(1)	PERCENT
ALL CAUSES (22,889 deaths)	<b>100.0(2)</b>
Diseases of the heart	<b>30.9</b>
Malignant neoplasms	22.8
Accidents	8.5
Motor vehicle	5.2
Other	3.3
Cerebrovascular disease	5.5
Chronic obstructive pulmonary diseases	5.2
Pneumonia and influenza	3.4
Suicide	2.9
Chronic liver disease and cirrhosis	2.0
Homicide and legal intervention	1.4
Diabetes <b>mellitus</b>	1.3
All Other Causes(3)	16.1

- (1) See Appendix 5 for categories from International Classification of Diseases, 9th Revision, used to define underlying causes of death according to methodology of Indian Health Service, Office of Planning, Evaluation, and Legislation.
- (2) Percentages may not sum to 100.0% due to independent rounding.
- (3) Includes "Other diseases of the nervous system and sense **organs**" (1.5%) and "Other diseases of the digestive **system**" (1.5%), which would have ranked among the **10 leading** causes of death for this group but were not included in the IHS methodology.

Source: State of California, Department of Health Services, Health Data and Statistics Branch.

Table 46

DISCHARGES FROM CALIFORNIA HOSPITALS(1) BY **RACE/ETHNICITY**(2)  
CALIFORNIA, 1988

RACE/ ETHNICITY	NUMBER	PERCENT
TOTAL	<b>3,596,669</b>	<b>100.0(3)</b>
American Indian/ Alaska Native	6,672	0.2
Asian	177,811	4.9
Black	319,645	8.9
Hispanic	671,547	18.7
White	<b>2,347,214</b>	65.3
Other	46,415	1.3
Unknown	27,365	0.8

(1) Includes out-of-state residents.

(2) Coded by hospital personnel.

(3) Percentages may not sum to 100.0% due to independent rounding;

Source: State of California, Office of Statewide Health Planning and Development.

Table 47

COMPARISON OF AMERICAN INDIAN/ALASKA NATIVE NEWBORN HOSPITAL RECORDS(1)  
 AND AMERICAN INDIAN/ALASKA NATIVE BIRTH CERTIFICATES(2)  
 BY TYPE OF COUNTY(3)  
 CALIFORNIA RESIDENTS, 1988

TYPE OF COUNTY	NUMBER OF AI/AN NEWBORN HOSPITAL RECORDS	NUMBER OF AI/AN BIRTH CERTIFICATES	RATIO BIRTH CERTIFICATES/ HOSPITAL RECORDS
All 58	908	5,764	6.3
Indian	442	2,983	6.7
Non-Indian	466	2,781	6.0
Federally Recognized	231	1,779	7.7
Non-Federally Recognized	74	560	7.6
Indisputably Rural	36	148	4.1
Indisputably Urban	407	2,318	5.7
Contract Clinic Accessible to 80% of AI/AN	302	1,948	6.5
Contract Clinic Accessible to 50% of AI/AN	99	647	6.5
Contract Clinic Not Accessible to AI/AN	39	381	9.8

(1) Infant's **race/ethnicity** coded by hospital personnel.

(2) Mother and/or father coded as AI/AN, including Hispanics.

(3) See Appendix 2 for definitions of county groups.

Source: State of California, Office of Statewide Health Planning and Development.  
 State of California, Department of Health Services, Health Data and Statistics Branch.

Table 48

AMERICAN INDIAN/ALASKA NATIVE HOSPITAL DISCHARGES BY TYPE OF COUNTY(1)  
CALIFORNIA RESIDENTS, 1988

TYPE OF COUNTY	NUMBER OF AI/AR DISCHARGES	PERCENT OF TOTAL AI/AN DISCHARGES
All 58	6,359	100.0(2)
Indian	3,035	47.7
Non-Indian	3,324	52.3
Federally Recognized	1,640	25.8
Non-Federally Recognized	592	9.3
Indisputably Rural	152	2.4
Indisputably Urban	2,682	42.2
Contract Clinic Accessible to 80% AI/AR	2,099	33.0
Contract Clinic Accessible to 50% AI/AN	651	10.2
Contract Clinic Not Accessible to AI/AN	277	4.4

(1) See Appendix 2 for definitions of county groups.

(2) Percentages may not sum to 100.0% due to independent rounding.

Source: State of California, Office of Statewide Health Planning and Development.

Table 49

HOSPITAL DISCHARGES(1) BY AGE AND SEX  
 AMERICAN INDIANS/ALASKA NATIVES AND ALL RACES  
 CALIFORNIA, 1988 AND UNITED STATES, FY 1989

AMERICAN INDIANS/  
 ALASKA NATIVES  
 CALIFORNIA  
 1988

AGE	TOTAL	FEMALE	MALE
ALL AGES	<b>6,669(2)</b> 100.0(3)	3,747 100.0	2,922 100.0
<b>&lt;15</b>	1,685 25.3	788 21.0	897 30.7
15-24	<b>993</b> <b>14.9</b>	732 19.5	261 8.9
25-64	3,161 47.4	<b>1,798</b> 48.0	1,363 46.6
<b>65+</b>	830 12.4	<b>429</b> 11.4	401 13.7

ALL RACES  
 CALIFORNIA  
 1988

AGE	TOTAL	FEMALE	MALE
ALL AGES	<b>3,595,448(4)</b> 100.0	<b>2,121,823</b> 100.0	<b>1,473,625</b> 100.0
<b>&lt;15</b>	742,810 21.6	<b>348,994</b> 16.4	<b>393,816</b> 26.7
15-24	406,684 11.8	308,346 14.5	98,320 6.7
25-64	<b>1,358,192</b> 39.6	949,850 44.8	570,681 38.7
<b>65+</b>	925,411 27.0	514,633 24.3	410,808 27.9

(continued)

Table 49 (continued)

AMERICAN INDIANS/ ALASKA NATIVES UNITED STATES(5) FY 1989			
AGE	TOTAL	FEMALE	MALE
ALL AGES	96,431 100.0	60,431 100.0	36,000 100.0
<b>&lt;15</b>	17,386 18.0	7,663 12.7	9,723 27.0
15-24	20,064 20.8	16,152 26.7	3,912 10.9
25-64	47,109 <b>48.9</b>	30,125 49.9	16,984 <b>47.2</b>
<b>65+</b>	11,872 12.3	6,491 10.7	5,381 14.9

(1) By occurrence.

(2) Excludes 2 discharges missing information on age and 1 discharge missing information on sex.

(3) Percentages may not sum to **100.0%** due to independent rounding.

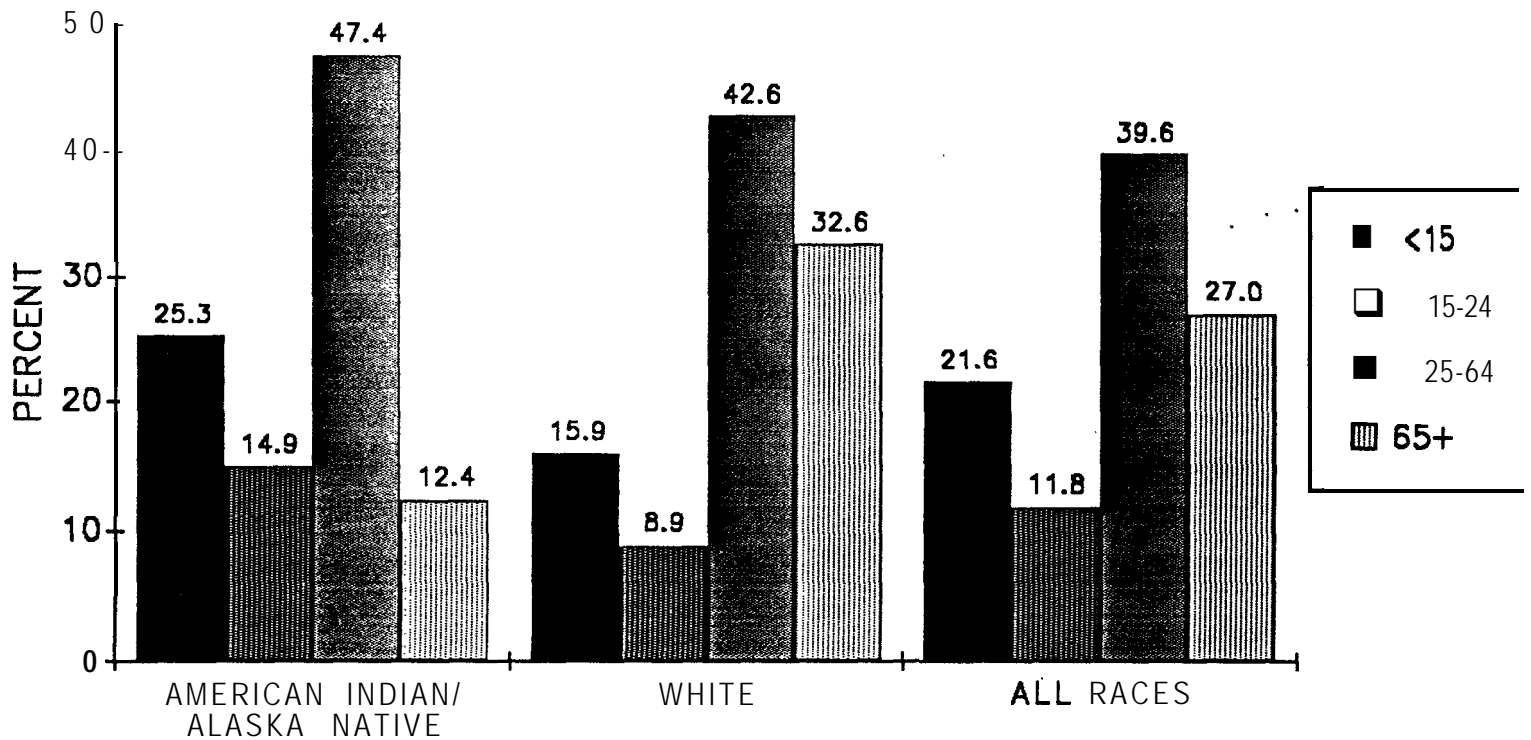
(4) Excludes 1,221 discharges missing information on age and/or sex.

(5) Includes Indian Health Service and tribal direct and contract general hospitals.

Source: State of California, Office of State Health Planning and Development.  
Indian Health Service, Office of Planning, Evaluation and Legislation.

**Chart 38**

**HOSPITAL DISCHARGES BY RACE AND AGE  
FEMALE AND MALE'  
CALIFORNIA, 1988**





**Chart 39**

**HOSPITAL DISCHARGES BY RACE AND AGE  
FEMALE  
CALIFORNIA, 1988**

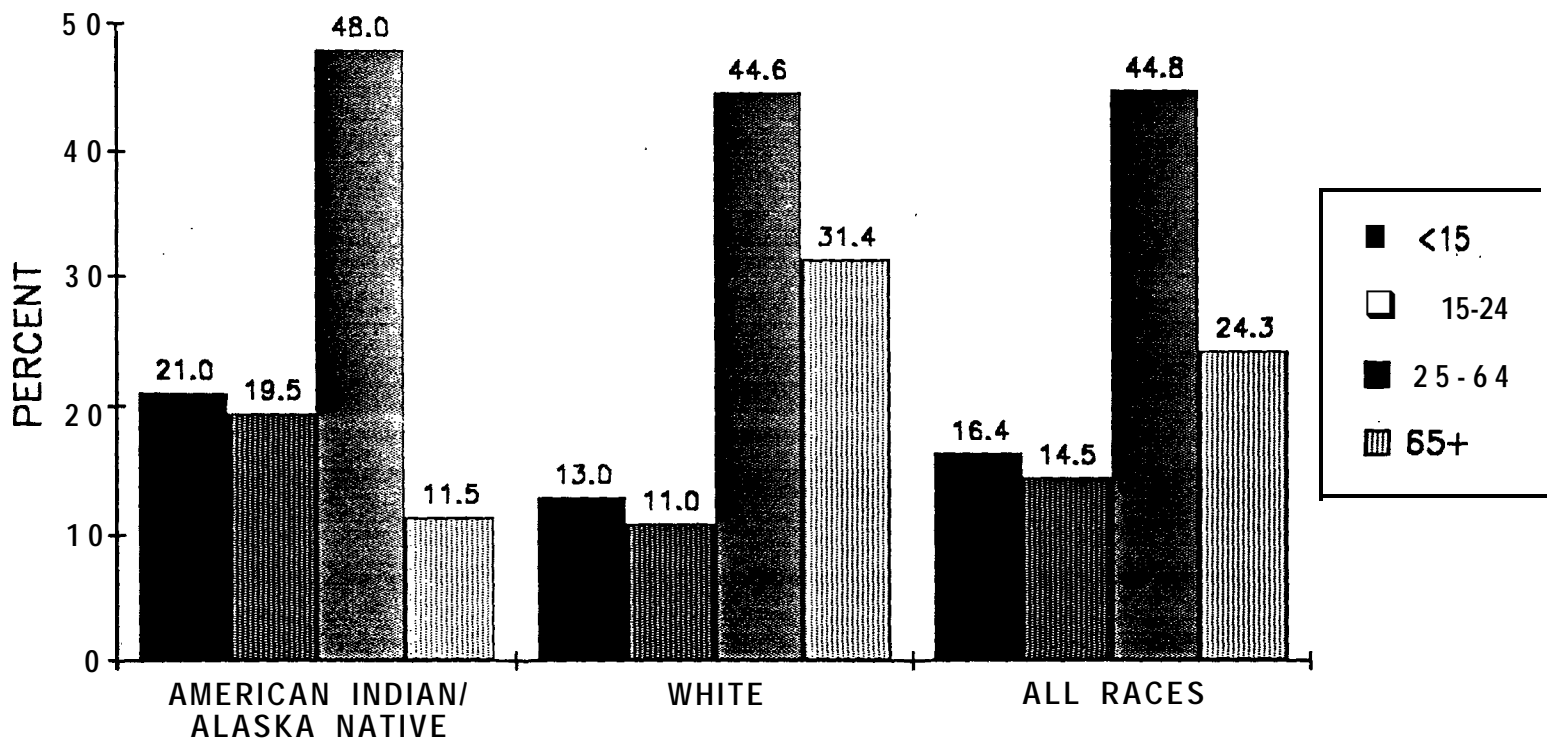


Chart 40

HOSPITAL DISCHARGES BY RACE AND AGE  
MALE  
CALIFORNIA, 1988

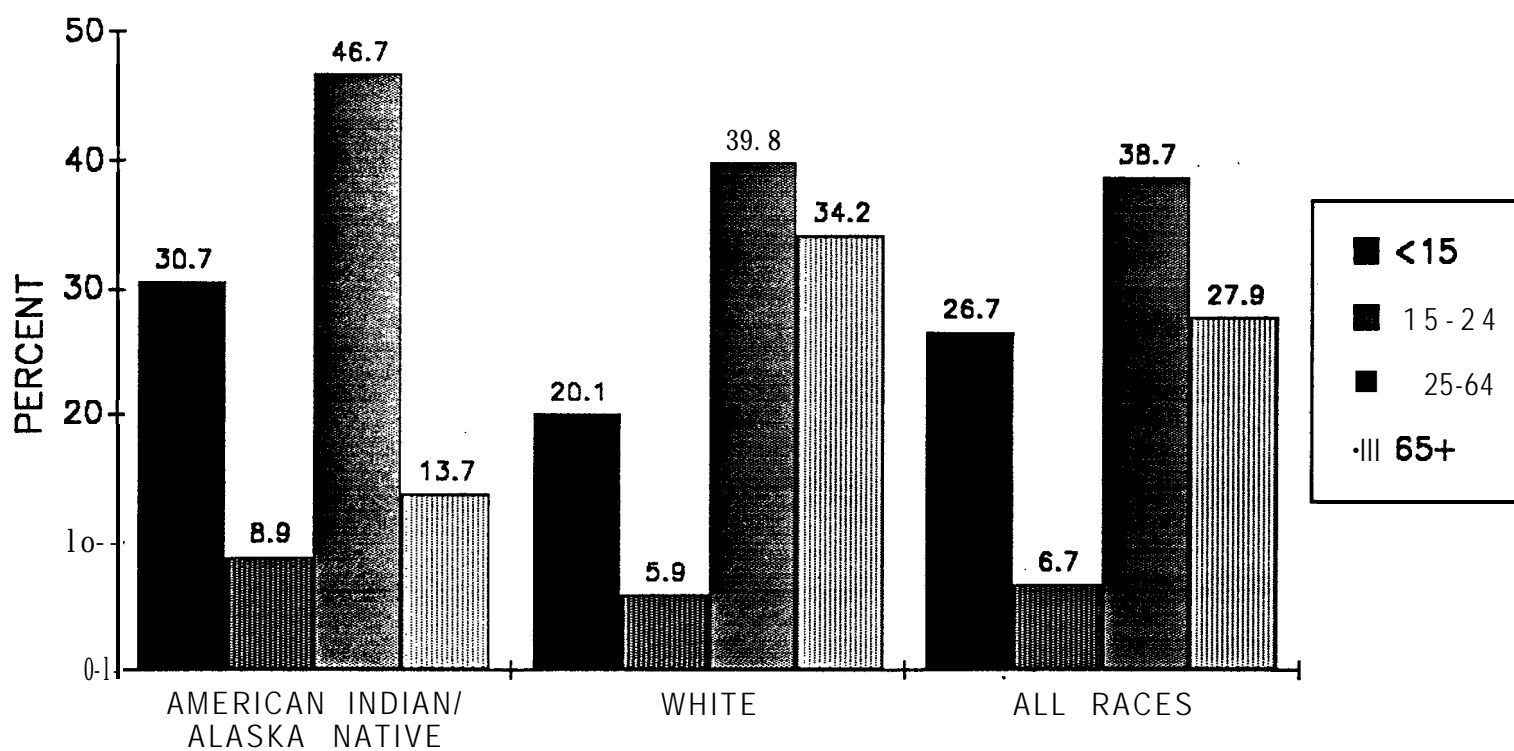


Chart 41

HOSPITAL DISCHARGES BY AGE  
AMERICAN INDIANS/ALASKA NATIVES  
FEMALE  
FEDERALLY RECOGNIZED COUNTIES  
CALIFORNIA RESIDENTS, 1988

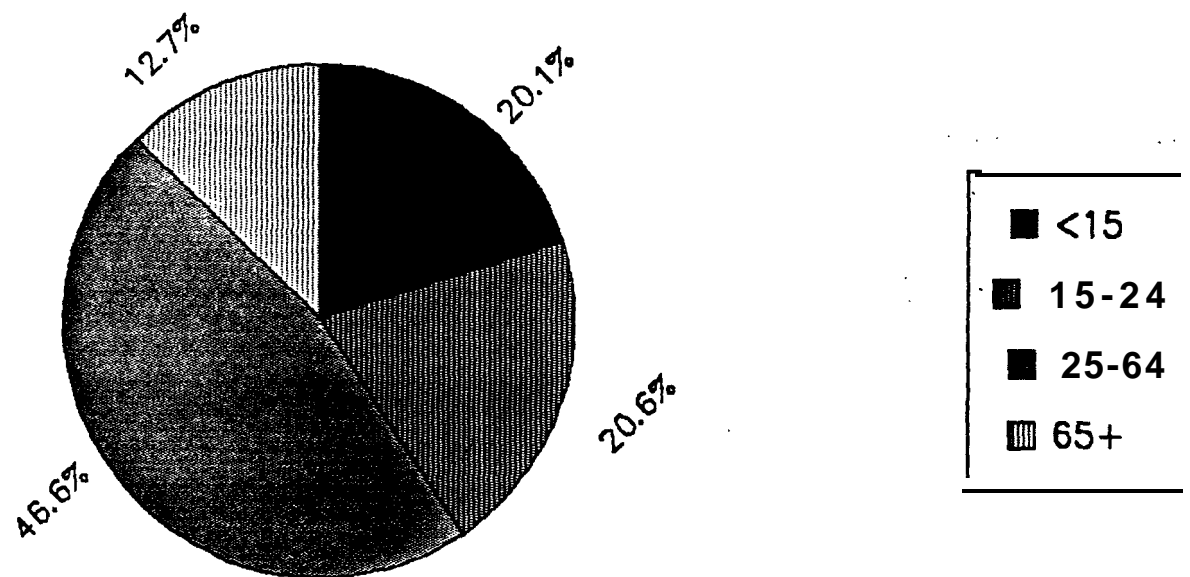


Chart 42

HOSPITAL DISCHARGES BY AGE  
AMERICAN INDIANS/ALASKA NATIVES  
FEMALE  
NON-FEDERALLY RECOGNIZED COUNTIES  
CALIFORNIA RESIDENTS, 1988

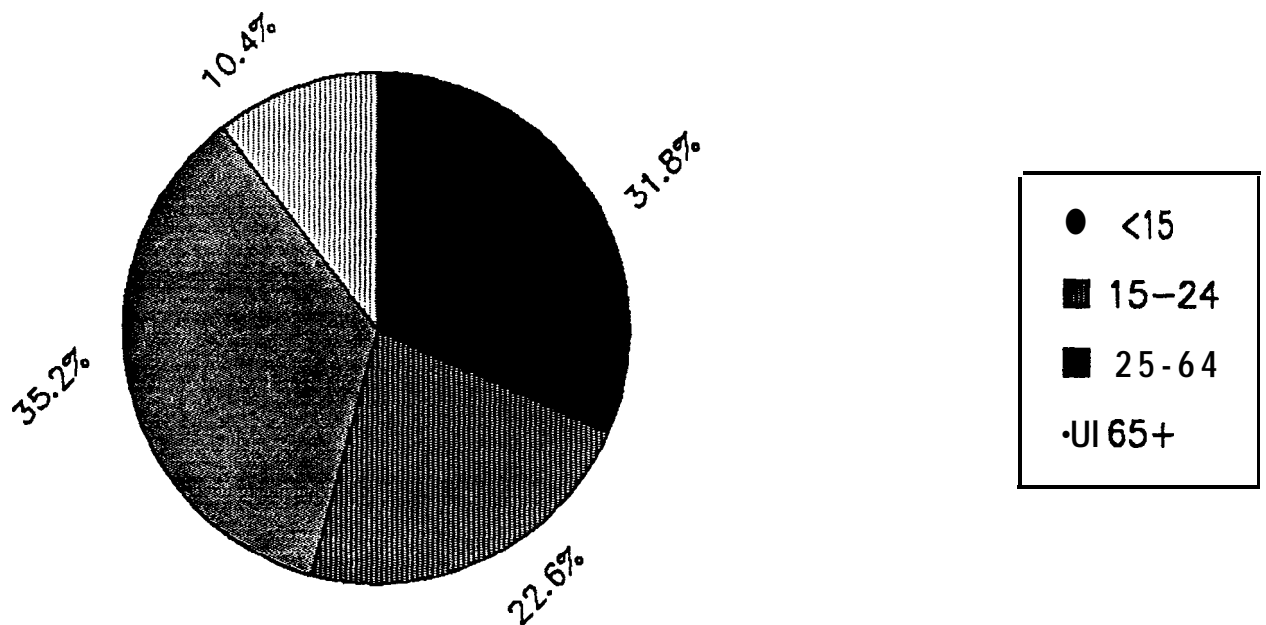


Chart 43

HOSPITAL DISCHARGES BY AGE  
AMERICAN INDIANS/ALASKA NATIVES  
MALE  
FEDERALLY RECOGNIZED COUNTIES  
CALIFORNIA RESIDENTS, 1988

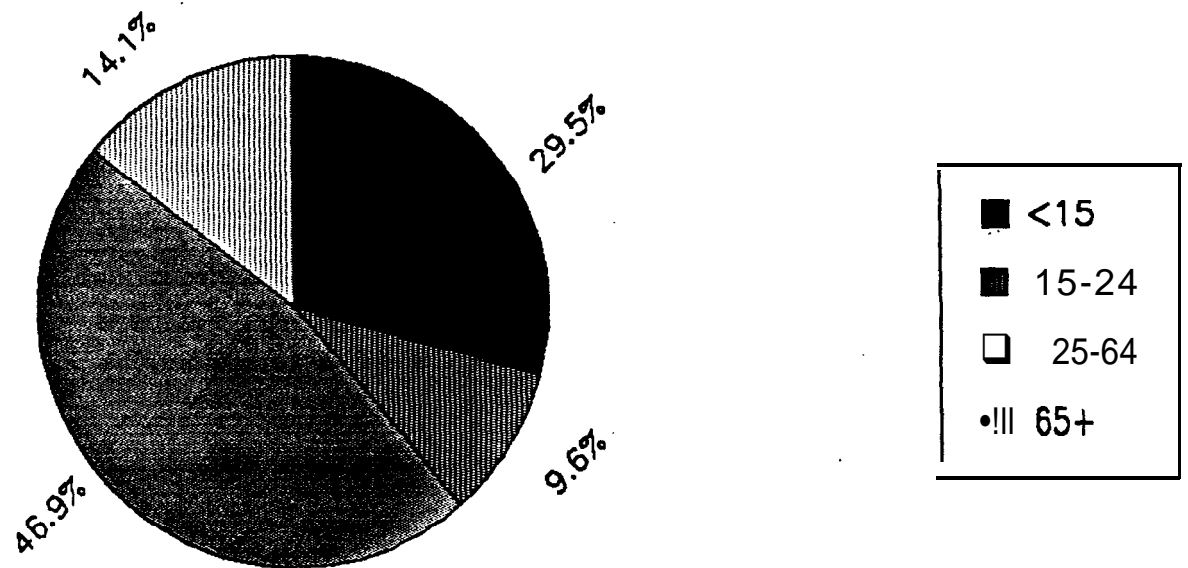


Chart 44

HOSPITAL DISCHARGES BY AGE  
AMERICAN INDIANS/ALASKA NATIVES  
MALE  
NON-FEDERALLY RECOGNIZED COUNTIES  
CALIFORNIA RESIDENTS, 1988

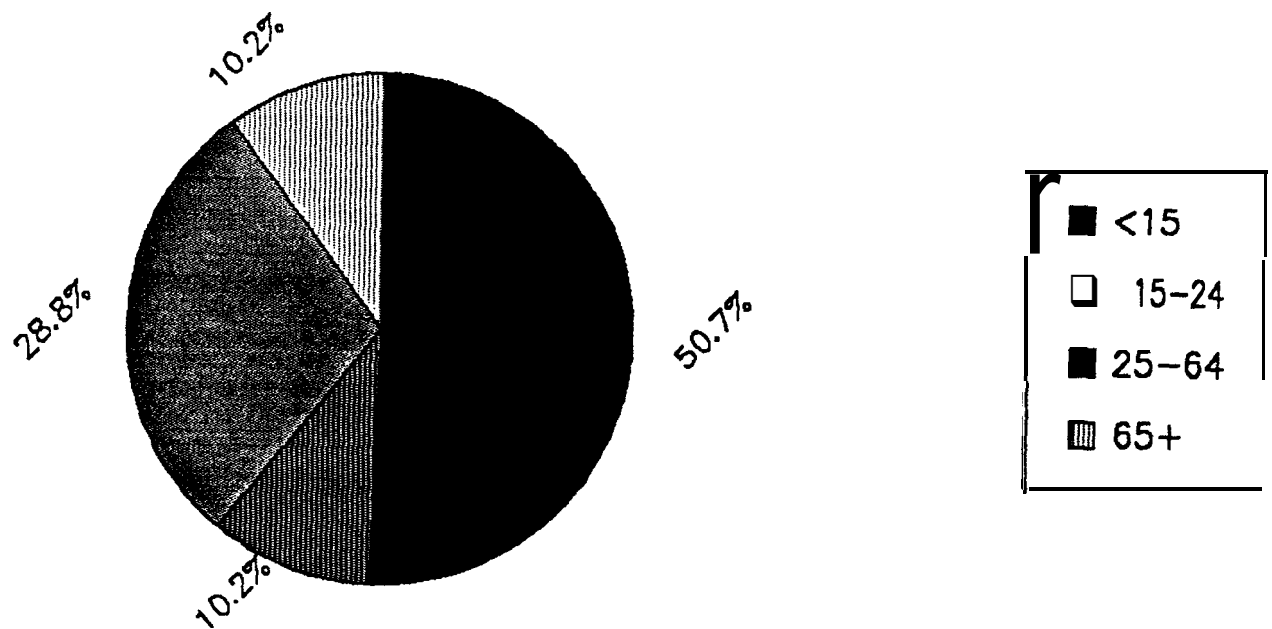


Table 50

HOSPITAL DISCHARGES BY AGE AND SEX  
 AMERICAN INDIANS/ALASKA NATIVES  
 FEDERALLY RECOGNIZED AND NON-FEDERALLY RECOGNIZED COUNTIES  
 CALIFORNIA RESIDENTS, 1988

AGE	FEDERALLY RECOGNIZED COUNTIES			NON-FEDERALLY RECOGNIZED COUNTIES		
	TOTAL	FEMALE	MALE	TOTAL	FEMALE	MALE
ALL AGES	<b>1,640(1)</b> <b>100.0(2)</b>	951 100.0	689 100.0	<b>592</b> 100.0	318 100.0	274 100.0
<b>&lt;15(3)</b>	<b>394</b> 24.0	191 20.1	203 29.5	240 40.5	101 31.8	139 50.7
15-24	262 16.0	196 20.6	66 9.6	<b>100</b> 16.9	72 22.6	28 10.2
25-64	47 46.7	443 46.6	323 46.9	191 32.3	112 35.2	79 28.8
<b>65+</b>	218 13.3	121 12.7	97 14.1	61 10.3	33 10.4	28 10.2

(1) Excludes 1 discharge missing information on sex.

(2) Percentages may not sum to 100.0% due to independent rounding.

(3) Includes live newborns.

Source: State of California, Office of Statewide Health Planning and Development.

Table 51

RANKED CAUSES(1) OF HOSPITALIZATION  
AMERICAN INDIAN/ALASKA NATIVE **DISCHARGES(2)**  
FEMALE  
ALL 58 COUNTIES  
CALIFORNIA, 1988

ICD-9(3) CODES	DIAGNOSTIC CATEGORY	NUMBER	PERCENT
	ALL CAUSES	<b>3,749</b>	<b>100.0(4)</b>
630-676	DELIVERIES AND COMPLICATIONS OF PREGNANCY	1,204	32.1
<b>V01-V82</b>	OTHER FACTORS INFLUENCING HEALTH STATUS AND CONTACT WITH HEALTH SERVICES(5)	568	15.2
<b>520-579</b>	DIGESTIVE SYSTEM DISEASES	309	8.2
800-999	INJURY AND POISONING	239	6.4
460-519	RESPIRATORY SYSTEM DISEASES	211	5.6
<b>290-319</b>	MENTAL DISORDERS	190	5.1
<b>390-459</b>	CIRCULATORY SYSTEM DISEASES	188	5.0
<b>580-629</b>	GENITOURINARY SYSTEM DISEASES	179	4.8
<b>140-239</b>	NEOPLASMS	108	2.9
780-799	SYMPTOMS AND ILL-DEFINED CONDITIONS	106	2.8
<b>240-279</b>	ENDOCRINE, NUTRITIONAL AND METABOLIC DISEASES	100	2.7
710-739	MUSCULOSKELETAL SYSTEM DISEASES	81	2.2
<b>001-139</b>	INFECTIOUS AND PARASITIC DISEASES	78	2.1
680-709	SKIN DISEASES	56	1.5
760-779	NEONATAL CONDITIONS	51	1.4
320-389	NERVOUS SYSTEM DISEASES	48	1.3
280-289	BLOOD DISEASES	18	0.5
740-759	CONGENITAL ANOMALIES	15	0.4

(1) Principal diagnoses only.

(2) By occurrence.

(3) International Classification of Diseases, 9th Revision.

(4) Percentages may not sum to 100.0% due to independent rounding.

(5) Includes live newborns; reasons other than illness or injury (e.g., donating an organ or tissue or receiving a preventive vaccination); and specific treatments (e.g., dialysis or chemotherapy)...

Source: State of California, Office of Statewide Health Planning and Development.



Table 52

RANKED CAUSES(1) OF HOSPITALIZATION  
ALL RACES DISCHARGES(2)  
FEMALE  
ALL 58 COUNTIES  
CALIFORNIA, 1988

ICD-9(3) CODES	DIAGNOSTIC CATEGORY	NUMBER	PERCENT
	ALL CAUSES	<b>2,121,611(4)</b>	<b>100.0(5)</b>
630-676	DELIVERIES AND COMPLICATIONS OF PREGNANCY	<b>595,795</b>	28.1
<b>V01-V82</b>	OTHER FACTORS INFLUENCING HEALTH STATUS AND CONTACT WITH HEALTH SERVICES(6)	<b>307,159</b>	14.5
390-459	CIRCULATORY SYSTEM DISEASES	205,004	<b>9.7</b>
520-579	DIGESTIVE SYSTEM DISEASES	150,019	7.1
460-519	RESPIRATORY SYSTEM DISEASES	126,197	5.9
800-999	INJURY AND POISONING	125,385	5.9
580-629	GENITOURINARY SYSTEM DISEASES	114,559	5.4
140-239	NEOPLASMS	109,541	5.2
290-319	MENTAL DISORDERS	96,831	4.6
710-739	MUSCULOSKELETAL SYSTEM DISEASES	68,291	3.2
780-799	SYMPTOMS AND ILL-DEFINED CONDITIONS	64,918	3.1
240-279	ENDOCRINE, NUTRITIONAL AND METABOLIC DISEASES	48,467	2.3
320-389	NERVOUS SYSTEM DISEASES	<b>30,440</b>	1.4
001-139	INFECTIOUS AND PARASITIC DISEASES	29,343	1.4
680-709	SKIN DISEASES	20,067	0.9
280-289	BLOOD DISEASES	13,647	0 . 6
740-759	CONGENITAL ANOMALIES	8,769	0 . 4
760-779	NEONATAL CONDITIONS	7,179	0.3

(1) Principal diagnoses only.

(2) By occurrence.

(3) International Classification of Diseases, 9th Revision.

(4) Excludes 734 discharges missing information on principal diagnosis.

(5) Percentages may not sum to 100.0% due to independent rounding.

(6) Includes live newborns; reasons other than illness or injury (e.g., donating an organ or tissue or receiving a preventive vaccination); and specific treatments (e.g., dialysis or chemotherapy).

Source: State of California, Office of Statewide Health Planning and Development.

Table 53

RANKED CAUSES(1) OF HOSPITALIZATION  
AMERICAN INDIAN/ALASKA NATIVE **DISCHARGES(2)**  
MALE  
ALL 58 COUNTIES  
CALIFORNIA, 1988

ICD-9(3) CODES	DIAGNOSTIC CATEGORY	NUMBER	PERCENT
	ALL CAUSES	<b>2,922</b>	<b>100.0(4)</b>
<b>V01-V82</b>	OTHER FACTORS INFLUENCING HEALTH STATUS AND CONTACT WITH HEALTH SERVICES(5)	535	1a.3
800-999	INJURY AND POISONING	433	14.8
<b>520-579</b>	DIGESTIVE SYSTEM DISEASES	309	10.6
<b>390-459</b>	CIRCULATORY SYSTEM DISEASES	305	10.4
290-319	MENTAL DISORDERS	284	9.7
460-519	RESPIRATORY SYSTEM DISEASES	278	9.5
780-799	SYMPTOMS AND ILL-DEFINED CONDITIONS	111	3.8
680-709	SKIN DISEASES	95	3.3
710-739	MUSCULOSKELETAL SYSTEM DISEASES	a5	2.9
140-239	NEOPLASMS	a3	2.8
580-629	GENITOURINARY SYSTEM DISEASES	<b>80</b>	2.7
001-139	INFECTIOUS AND PARASITIC DISEASES	74	2.5
240-279	ENDOCRINE, NUTRITIONAL AND METABOLIC DISEASES	74	2.5
320-389	NERVOUS SYSTEM DISEASES	72	2.5
760-779	NEONATAL CONDITIONS	56	1.9
740-759	CONGENITAL ANOMALIES	25	0.9
280-289	BLOOD DISEASES	23	0.8

(1) Principal diagnoses only.

(2) By occurrence.

(3) International Classification of Diseases, 9th Revision.

(4) Percentages may not sum to 100.0% due to independent rounding.

(5) Includes live newborns; reasons other than illness or injury (e.g., donating an organ or tissue or **receiving a** preventive vaccination); and specific treatments (e.g., dialysis or chemotherapy).

Source: State of California, Office of Statewide Health Planning and Development.

Table 54

RANKED CAUSES(1) OF HOSPITALIZATION  
ALL RACES DISCHARGES(2)  
MALE  
ALL 58 COUNTIES  
CALIFORNIA, 1988

ICD-9(3) CODES	DIAGNOSTIC NAME	NUMBER	PERCENT
	ALL CAUSES	1,473,185(4)	100.0(5)
V01-V82	OTHER FACTORS INFLUENCING HEALTH STATUS AND CONTACT WITH HEALTH SERVICES(6)	305,262	20.7
390-459	CIRCULATORY SYSTEM DISEASES	228,020	15.5
800-999	INJURY AND POISONING	162,923	11.1
520-579	DIGESTIVE SYSTEM DISEASES	129,733	8.8
460-519	RESPIRATORY SYSTEM DISEASES	122,374	8.3
290-319	MENTAL DISORDERS	108,067	7.3
140-239	NEOPLASMS	71,977	4.9
580-629	GENITOURINARY SYSTEM DISEASES	71,935	4.9
710-739	MUSCULOSKELETAL SYSTEM DISEASES	61,813	4.2
780-799	SYMPTOMS AND ILL-DEFINED CONDITIONS	58,863	4.0
001-139	INFECTIOUS AND PARASITIC DISEASES	34,515	2.3
240-279	ENDOCRINE, NUTRITIONAL AND METABOLIC DISEASES	33,163	2.3
320-389	NERVOUS SYSTEM DISEASES	29,585	2.0
680-709	SKIN DISEASES	22,961	1.6
280-289	BLOOD DISEASES	11,695	0.8
740-759	CONGENITAL ANOMALIES	10,662	0.7
760-779	NEONATAL CONDITIONS	9,637	0.7

(1) Principal diagnoses only.

(2) By occurrence.

(3) International Classification of Diseases, 9th Revision.

(4) Excludes 836 discharges missing information on principal diagnosis.

(5) Percentages may not sum to 100.0% due to independent rounding.

(6) Includes live newborns; reasons other than illness or injury (e.g., donating an organ or tissue or receiving a preventive vaccination); and specific treatments (e.g., dialysis or chemotherapy).

Source: State of California, Office of Statewide Health Planning and Development.

Table 55

RANKED CAUSES(1) OF HOSPITALIZATION  
AMERICAN INDIAN/ALASKA NATIVE DISCHARGES(2)  
FEMALE AND MALE  
FEDERALLY RECOGNIZED COUNTIES  
CALIFORNIA, 1988

ICD-9( 3) CODES	DIAGNOSTIC CATEGORY	NUMBER	PERCENT
	ALL CAUSES	1,641	<b>100.0(4)</b>
630-676	DELIVERIES AND COMPLICATIONS OF PREGNANCY.	300	18.3
<b>V01-V82</b>	OTHER FACTORS INFLUENCING HEALTH STATUS AND CONTACT WITH HEALTH SERVICES(5)	258	15.7
800-999	INJURY AND POISONING	181	11.0
460-519	RESPIRATORY SYSTEM DISEASES	147	<b>9.0</b>
520-579	DIGESTIVE SYSTEM DISEASES	145	8.8
390-459	CIRCULATORY SYSTEM DISEASES	126	7.7
290-319	MENTAL DISORDERS	106	6.5
580-629	GENITOURINARY SYSTEM DISEASES	72	4.4
780-799	SYMPTOMS AND ILL-DEFINED CONDITIONS	68	<b>4.1</b>
710-739	MUSCULOSKELETAL SYSTEM DISEASES	52	3.2
240-279	ENDOCRINE, NUTRITIONAL AND METABOLIC DISEASES	38	2.3
140-239	NEOPLASMS	36	2.2
320-389	NERVOUS SYSTEM DISEASES	34	2.1
<b>001-139</b>	INFECTIOUS AND PARASITIC DISEASES	29	1.8
680-709	SKIN DISEASES	22	1.3
760-779	NEONATAL CONDITIONS	<b>12</b>	0.7
280-289	BLOOD DISEASES	<b>9</b>	0.6
740-759	CONGENITAL ANOMALIES	6	0.4

(1) Principal diagnoses only.

(2) By occurrence.

(3) International Classification of Diseases, 9th Revision.

(4) Percentages may not sum to 100.0% due to independent rounding.

(5) Includes live newborns; reasons other than illness or injury (e.g., donating an organ or tissue or receiving a preventive vaccination); and specific treatments (e.g., dialysis or chemotherapy).

Source: State of California, Office of Statewide Health Planning and Development.

Table 56

RANKED CAUSES(1) OF HOSPITALIZATION  
ALL RACES DISCHARGES(2)  
FEMALE AND MALE  
FEDERALLY RECOGNIZED COUNTIES  
CALIFORNIA, 1988

ICD-9(3) CODES	DIAGNOSTIC CATEGORY	NUMBER	PERCENT
	ALL CAUSES	596,973 (4)	100.0 (5)
V01-V82	OTHER FACTORS INFLUENCING HEALTH STATUS AND CONTACT WITH HEALTH SERVICES(6)	101,805	17.1
630-676	DELIVERIES AND COMPLICATIONS OF PREGNANCY	99,375	16.6
390-459	CIRCULATORY SYSTEM DISEASES	70,670	11.8
800-999	INJURY AND POISONING	50,206	8.4
520-579	DIGESTIVE SYSTEM DISEASES	44,779	7.5
460-519	RESPIRATORY SYSTEM DISEASES	42,644	7.1
290-319	MENTAL DISORDERS	37,320	6.3
580-629	GENITOURINARY SYSTEM DISEASES	30,982	5.2
140-239	NEOPLASMS	28,464	4.8
710-739	MUSCULOSKELETAL SYSTEM DISEASES	22,006	3.7
780-799	SYMPTOMS AND ILL-DEFINED CONDITIONS	19,459	3.3
240-279	ENDOCRINE, NUTRITIONAL AND METABOLIC DISEASES	13,389	2.2
001-139	INFECTIOUS AND PARASITIC DISEASES	9,658	1.6
320-389	NERVOUS SYSTEM DISEASES	9,570	1.6
680-709	SKIN DISEASES	5,989	1.0
280-289	BLOOD DISEASES	3,871	0.7
760-779	NEONATAL CONDITIONS	3,419	0.6
740-759	CONGENITAL ANOMALIES	3,367	0.6

(1) Principal diagnoses only.

(2) By occurrence.

(3) International Classification of Diseases, 9th Revision.

(4) Excludes 261 discharges missing information on principal diagnosis.

(5) Percentages may not sum to 100.0% due to independent rounding.

(6) Includes live newborns; reasons other than illness or injury (e.g., donating an organ or tissue or receiving a preventive vaccination); and specific treatments (e.g., dialysis or chemotherapy).

Source: State of California, Office of Statewide Health Planning and Development.

Table 57

RANKED CAUSES(1) OF HOSPITALIZATION  
AMERICAN INDIAN/ALASKA NATIVE **DISCHARGES(2)**  
FEMALE AND MALE  
NON-FEDERALLY RECOGNIZED COUNTIES  
CALIFORNIA, 1988

ICD-9(3) CODES	DIAGNOSTIC CATEGORY	NUMBER	PERCENT
	ALL CAUSES	<b>592</b>	<b>100.0(4)</b>
630-676	DELIVERIES AND COMPLICATIONS OF PREGNANCY	<b>93</b>	15.7
<b>V01-V82</b>	OTHER FACTORS INFLUENCING HEALTH STATUS AND CONTACT WITH HEALTH SERVICES(5)	75	12.7
460-519	RESPIRATORY SYSTEM DISEASES	66	11.2
800-999	INJURY AND POISONING	64	10.8
520-579	DIGESTIVE SYSTEM DISEASES	54	9.1
760-779	NEONATAL CONDITIONS	39	6.6
240-279	ENDOCRINE, NUTRITIONAL AND METABOLIC DISEASES	29	4.9
290-319	MENTAL DISORDERS	28	4.7
390-459	CIRCULATORY SYSTEM DISEASES	22	3.7
140-239	NEOPLASMS	21	3.6
001-139	INFECTIOUS AND PARASITIC DISEASES	20	3.4
680-709	SKIN DISEASES	20	3.4
780-799	SYMPTOMS AND ILL-DEFINED CONDITIONS	17	2.9
580-629	GENITOURINARY SYSTEM DISEASES	14	2.4
740-759	CONGENITAL ANOMALIES	12	2.0
710-739	MUSCULOSKELETAL SYSTEM DISEASES	7	1.2
320-389	NERVOUS SYSTEM DISEASES	7	1.2
280-289	BLOOD DISEASES	4	0.7

(1) Principal diagnoses only.

(2) By occurrence.

(3) International Classification of Diseases, 9th Revision.

(4) Percentages may not sum to 100.0% due to independent rounding.

(5) Includes live newborns; reasons other than illness or injury (e.g., donating an organ or tissue or receiving a preventive vaccination); and specific treatments (e.g., dialysis or chemotherapy).

Source: State of California, Office of Statewide Health Planning and Development.

Table 58

RANKED CAUSES(1) OF HOSPITALIZATION  
ALL RACES DISCHARGES(2)  
FEMALE AND MALE  
NON-FEDERALLY RECOGNIZED COUNTIES  
CALIFORNIA, 1988

ICD-9(3) CODES	DIAGNOSTIC CATEGORY	NUMBER	PERCENT
	ALL CAUSES	219,207 (4)	100.0 (5)
V01-V82	OTHER FACTORS INFLUENCING HEALTH STATUS AND CONTACT WITH HEALTH SERVICES(6)	35,152	16.0
630-676	DELIVERIES AND COMPLICATIONS OF PREGNANCY	33,589	15.3
390-459	CIRCULATORY SYSTEM DISEASES	28,887	13.2
520-579	DIGESTIVE SYSTEM DISEASES	18,716	8.5
800-999	INJURY AND POISONING	18,040	8.2
460-519	RESPIRATORY SYSTEM DISEASES	16,684	7.6
580-629	GENITOURINARY SYSTEM DISEASES	12,069	5.5
140-239	NEOPLASMS	11,381	5.2
290-319	MENTAL DISORDERS	9,275	4.2
710-739	MUSCULOSKELETAL SYSTEM DISEASES	9,115	-4.2
780-799	SYMPTOMS AND ILL-DEFINED CONDITIONS	8,265	3.8
240-279	ENDOCRINE, NUTRITIONAL AND METABOLIC DISEASES	4,964	2.3
320-389	NERVOUS SYSTEM DISEASES	3,349	1.5
001-139	INFECTIOUS AND PARASITIC DISEASES	3,305	1.5
680-709	SKIN DISEASES	2,421	1.1
760-779	NEONATAL CONDITIONS	1,475	0.7
280-289	BLOOD DISEASES	1,305	0.6
740-759	CONGENITAL ANOMALIES	1,215	0.6

(1) Principal diagnoses only.

(2) By occurrence.

(3) International Classification of Diseases, 9th Revision.

(4) Excludes 89 discharges missing information on principal diagnosis.

(5) Percentages may not sum to 100.0% due to independent rounding.

(6) Includes live newborns; reasons other than illness or injury (e.g., donating an organ or tissue or receiving a preventive vaccination); and specific treatments (e.g., dialysis or chemotherapy).

Source: State of California, Office of Statewide Health Planning and Development.

**Table 59**

**MEAN AGE AND MEAN TOTAL CHARGES BY DIAGNOSTIC CATEGORY(1) OF HOSPITALIZATION  
AMERICAN INDIAN/ALASKA NATIVE AND ALL RACES DISCHARGES(P)  
CALIFORNIA, 1988**

ICD-9(4) CODES	DIAGNOSTIC CATEGORY	MEAN AGE (in years)		MEAN CHARGES(3) (in dollars)	
		AMERICAN INDIAN/ ALASKA NATIVE	ALL RACES	AMERICAN INDIAN/ ALASKA NATIVE	ALL RACES
<b>V01-V82</b>	OTHER FACTORS INFLUENCING HEALTH STATUS AND CONTACT WITH HEALTH SERVICES(5)	5.3	<b>7.9</b>	2,115	2,920
001-139	INFECTIOUS AND PARASITIC DISEASES	38.1	40.0	13,500	10,906
140-239	NEOPLASMS	52.1	58.6	10,533	11,843
<b>240-279</b>	ENDOCRINE, NUTRITIONAL AND METABOLIC DISEASES	49.0	54.8	7,222	7,440
<b>280-289</b>	BLOOD DISEASES	38.8	44.5	3,979	6,934
290-319	MENTAL DISORDERS	33.3	37.6	8,523	9,314
<b>320-389</b>	NERVOUS SYSTEM DISEASES	31.1	45.6	6,918	8,624
390-459	CIRCULATORY SYSTEM DISEASES	60.3	67.0	10,221	11,895
460-519	RESPIRATORY SYSTEM DISEASES	38.0	49.3	8,149	9,704
520-579	DIGESTIVE SYSTEM DISEASES	40.4	50.5	8,810	8,621
<b>580-629</b>	GENITOURINARY SYSTEM DISEASES	47.4	50.9	5,616	6,380
630-676	DELIVERIES AND COMPLICATIONS OF PREGNANCY	26.1	26.7	2,621	2,134
<b>680-709</b>	SKIN DISEASES	40.9	47.6	6,968	8,449
710-739	MUSCULOSKELETAL SYSTEM DISEASES	45.6	50.9	9,219	8,877
740-759	CONGENITAL ANOMALIES	11.7	12.4	18,832	14,324
760-779	NEONATAL CONDITIONS	0.0	0.2	27,919	19,589
<b>780-799</b>	SYMPTOMS AND ILL-DEFINED CONDITIONS	39.6	51.3	4,224	4,949
<b>800-999</b>	INJURY AND POISONING	33.7	43.8	7,751	9,564

(1) Principal diagnoses only.

(2) By occurrence.

(3) Excludes discharges from Kaiser Hospitals, for which financial information was incomplete

(4) International Classification of Diseases, 9th Revision.

(5) Includes live newborns; reasons other than illness or injury (e.g., donating an organ or tissue or receiving a preventive vaccination); and specific treatments (e.g., dialysis or chemotherapy).

Source: State of California, Office of Statewide Health Planning and Development.



Table 60

15 LEADING HOSPITAL DIAGNOSES(1)  
 AMERICAN INDIAN/ALASKA NATIVE DISCHARGES(2)  
 FEMALE  
 ALL 58 COUNTIES  
 CALIFORNIA, 1988

ICD-9(3) CODE	DIAGNOSIS	NUMBER	PERCENT
	ALL DIAGNOSES	3,749	100.0(4)
V30	SINGLE LIVEBORN	501	13.4
650	DELIVERY IN A COMPLETELY NORMAL CASE	310	8.3
664	TRAUMA TO PERINEUM AND WLVA DURING DELIVERY	157	4.2
654	ABNORMALITY OF ORGANS AND SOFT TISSUES OF PELVIS	88	2.3
574	CHOLELITHIASIS	84	2.2
656	OTHER FETAL AND PLACENTAL PROBLEMS AFFECTING MANAGEMENT OF MOTHER	67	1.8
644	EARLY OR THREATENED LABOR	57	1.5
296	AFFECTIVE PSYCHOSES	55	1.5
661	ABNORMALITY OF FORCES OF LABOR	48	1.3
48.6	PNEUMONIA, ORGANISM UNSPECIFIED	47	1.3
493	ASTHMA	46	1.2
250	DIABETES MELLITIS	44	1.2
648	OTHER CURRENT CONDITIONS IN THE MOTHER CLASSIFIABLE ELSEWHERE, BUT COMPLICATING PREGNANCY, CHILDBIRTH, OR THE PUERPERIUM	44	1.2
663	UMBILICAL CORD COMPLICATIONS	44	1.2
658	OTHER PROBLEMS ASSOCIATED WITH AMNIOTIC CAVITY AND MEMBRANES	40	1.1
682	OTHER CELLULITIS AND ABSCESS	40	1.1
	ALL OTHER DIAGNOSES	2,077	55.2

(1) Principal diagnoses only.

(2) By occurrence.

(3) International Classification of Diseases, 9th Revision.

(4) Percentages may not sum to 100.0% due to independent rounding.

Source: State of California, Office of Statewide Health Planning and Development.

Table 61

15 LEADING HOSPITAL DIAGNOSES(1)  
 ALL RACES DISCHARGES(2)  
 FEMALE  
 ALL 58 COUNTIES  
 CALIFORNIA, 1988

## ICD-9(3)

CODE	DIAGNOSIS	NUMBER	PERCENT
	<b>ALL DIAGNOSES</b>	<b>2,121,661(4)</b>	<b>100.0(5)</b>
<b>V30</b>	<b>SINGLE LIVEBORN</b>	<b>249,053</b>	<b>11.7</b>
650	DELIVERY IN A COMPLETELY NORMAL CASE	130,706	6.2
664	TRAUMA TO PERINEUM AND WLVA DURING DELIVERY	82,409	3.9
654	ABNORMALITY OF ORGANS AND SOFT TISSUES OF PELVIS	45,278	2.1
656	OTHER FETAL AND PLACENTAL PROBLEMS AFFECTING MANAGEMENT OF MOTHER	37,677	1.8
644	EARLY OR THREATENED LABOR	<b>35,269</b>	<b>1.7</b>
296	AFFECTIVE PSYCHOSES	34,750	1.6
428	HEART FAILURE	34,538	1.6
663	UMBILICAL CORD COMPLICATIONS	34,322"	1.6
574	CHOLELITHIASIS	32,049	1.5
<b>V58</b>	<b>OTHER AND UNSPECIFIED AFTERCARE</b>	<b>28,578</b>	<b>1.3</b>
411	OTHER ACUTE AND SUBACUTE FORMS OF ISCHEMIC HEART DISEASE	27,042	1.3
493	ASTHMA	26,518	1.2
486	PNEUMONIA, ORGANISM UNSPECIFIED	26,028	1.2
786	SYMPTOMS INVOLVING RESPIRATORY SYSTEM AND OTHER CHEST SYMPTOMS	22,557	1.1
	<b>ALL OTHER DIAGNOSES</b>	<b>1,274,837</b>	<b>60.2</b>

(1) Principal diagnoses only.

(2) By occurrence.

(3) International Classification of Diseases, 9th Revision.

(4) Excludes 734 discharges missing information on principal diagnosis.

(5) Percentages may not sum to 100.0% due to independent rounding.

Source: State of California, Office of Statewide Health Planning and Development.

Table 62

15 LEADING HOSPITAL DIAGNOSES(1)  
 AMERICAN INDIAN/ALASKA NATIVE DISCHARGES(2)  
 MALE  
 ALL 58 COUNTIES  
 CALIFORNIA, 1988

ICD-9(3) CODE	DIAGNOSIS	NUMBER	PERCENT
	ALL DIAGNOSES	<b>2,922</b>	<b>100.0(4)</b>
<b>V30</b>	SINGLE <b>LIVEBORN</b>	456	15.6
682	OTHER CELLULITIS AND ABSCESS	74	2.5
493	ASTHMA	61	2.1
486	PNEUMONIA, ORGANISM UNSPECIFIED	60	2.1
303	ALCOHOL DEPENDENCE SYNDROME	55	1.9
780	GENERAL SYMPTOMS	48	1.6
250	DIABETES MELLITIS	46	1.6
296	AFFECTIVE PSYCHOSES	46	1.6
411	OTHER ACUTE AND SUBACUTE FORMS OF ISCHEMIC HEART DISEASE	41	1.4
410	ACUTE MYOCARDIAL INFARCTION	40	1.4
428	HEART FAILURE	38	1.3
540	ACUTE APPENDICITIS	38	1.3
291	ALCOHOLIC PSYCHOSES	32	1.1
295	SCHIZOPHRENIC DISORDERS	32	1.1
571	CHRONIC LIVER DISEASE AND CIRRHOSIS	32	1 . 1
577	DISEASES OF PANCREAS	3 2	1.1
	ALL OTHER DIAGNOSES	1,791	61.2

(1) Principal diagnoses only.

(2) By occurrence.

(3) International Classification of Diseases, 9th Revision.

(4) Percentages may not sum to 100.0% due to independent rounding.

Source: State of California, Office of Statewide Health Planning and Development.

Table 63

15 LEADING HOSPITAL DIAGNOSES(1)  
 ALL RACES DISCHARGES(2)  
 MALE  
 ALL 58 COUNTIES  
 CALIFORNIA, 1988

ICD-9(3)

CODE	DIAGNOSIS	NUMBER	PERCENT
	ALL DIAGNOSES	<b>1,473,185(4)</b>	<b>100.0(5)</b>
<b>V30</b>	<b>SINGLE LIVEBORN</b>	260,423	17.7
411	OTHER ACUTE AND SUBACUTE FORMS OF ISCHEMIC HEART DISEASE	31,597	2.1
428	HEART FAILURE	30,156	2.0
410	ACUTE MYOCARDIAL INFARCTION	29,054	2.0
486	PNEUMONIA, ORGANISM UNSPECIFIED	25,962	1.8
600	HYPERPLASIA OF PROSTATE	25,856	1.8
786	SYMPTOMS INVOLVING RESPIRATORY SYSTEM AND OTHER CHEST SYMPTOMS	22,660	1.5
414	OTHER FORMS OF CHRONIC ISCHEMIC HEART DISEASE	22,399	1.5
427	CARDIAC DYSRHYTHMIAS	21,470	1.5
296	AFFECTIVE PSYCHOSES	20,809	1.4
V58	OTHER AND UNSPECIFIED AFTERCARE	20,700	1.4
493	ASTHMA	20,182	1.4
295	SCHIZOPHRENIC DISORDERS	19,679	1.3
303	ALCOHOL DEPENDENCE SYNDROME	19,087	1.3
780	GENERAL SYMPTOMS	18,662	1.3
	ALL OTHER DIAGNOSES	884,489	60.0

(1) Principal diagnoses only.

(2) By occurrence.

(3) International Classification of Diseases, 9th Revision.

(4) Excludes 836 discharges missing information on principal diagnosis.

(5) Percentages may not sum to 100.0% due to independent rounding.

Source: State of California, Office of Statewide Health Planning and  
 Development.

Table 64

15 LEADING HOSPITAL DIAGNOSES(1)  
 AMERICAN INDIAN/ALASKA NATIVE DISCHARGES(2)  
 FEMALE AND MALE  
 FEDERALLY RECOGNIZED COUNTIES  
 CALIFORNIA, 1988

ICD-9(3) CODE	DIAGNOSES	NUMBER	PERCENT
	ALL DIAGNOSES	1,641	100.0(4)
V30	SINGLE LIVEBORN	228	13.9
650	DELIVERY IN A COMPLETELY NORMAL CASE	77	4.7
486	PNEUMONIA, ORGANISM UNSPECIFIED	38	2.3
574	CHOLELITHIASIS	33	2.0
664	TRAUMA TO PERINEUM AND WLVA DURING DELIVERY	32	2.0
493	ASTHMA	28	1.7
780	GENERAL SYMPTOMS	27	1.6
654	ABNORMALITY OF ORGANS AND SOFT TISSUES OF PELVIS	26	1.6
250	DIABETES MELLITIS	24	1.5
296	AFFECTIVE PSYCHOSES	24	1.5
428	HEART FAILURE	23	1.4
295	SCHIZOPHRENIC DISORDERS	22	1.3
786	SYMPTOMS INVOLVING RESPIRATORY SYSTEM AND OTHER CHEST SYMPTOMS	21	1.3
540	ACUTE APPENDICITIS	20	1.2
599	OTHER DISORDERS OF URETHRA AND URINARY TRACT	19	1.2
	ALL OTHER DIAGNOSES	999	60.8

(1) Principal diagnoses only.

(2) By occurrence.

(3) International Classification of Diseases, 9th Revision.

(4) Percentages may not sum to 100.0% due to independent rounding.

Source: State of California, Office of Statewide Health Planning and Development.

Table 65

15 LEADING HOSPITAL DIAGNOSES(1)  
 ALL RACES DISCHARGES(2)  
 FEMALE AND MALE  
 FEDERALLY RECOGNIZED COUNTIES  
 CALIFORNIA, 1988

ICD-9(3) CODE	DIAGNOSIS	NUMBER	PERCENT
	ALL DIAGNOSES	<b>596,973 (4)</b>	<b>100.0 (5)</b>
<b>V30</b>	SINGLE <b>LIVEBORN</b>	86,301	14.5
650	DELIVERY IN A COMPLETELY NORMAL CASE	21,456	3.6
664	TRAUMA TO PERINEUM AND WLVA DURING DELIVERY	10,948	1.8
411	OTHER ACUTE AND SUBACUTE FORMS OF ISCHEMIC HEART DISEASE	10,877	1.8
<b>296</b>	AFFECTIVE PSYCHOSES	<b>10,751</b>	1.8
428	HEART FAILURE	9,918	1.7
486	PNEUMONIA, ORGANISM UNSPECIFIED	9,370	1.6
410	ACUTE MYOCARDIAL INFARCTION	8,040	1.3
654	ABNORMALITY OF ORGANS AND SOFT TISSUES OF PELVIS	8,030	1.3
493	ASTHMA	7,992	1.3
656	OTHER FETAL AND PLACENTAL PROBLEMS AFFECTING MANAGEMENT OF MOTHER	7,934	1.3
V58	OTHER AND UNSPECIFIED AFTERCARE	<b>7,496</b>	1.3
786	SYMPTOMS INVOLVING RESPIRATORY SYSTEM AND OTHER CHEST SYMPTOMS	7,357	1.2
574	CHOLELITHIASIS	7,253	1.2
427	CARDIAC DYSRHYTHMIA	<b>7,034</b>	1.2
	ALL OTHER DIAGNOSES	376,216	63.1

(1) Principal diagnoses only.

(2) By occurrence.

(3) International Classification of Diseases, 9th Revision.

(4) Excludes 261 discharges missing information on principal diagnosis.

(5) Percentages may not sum to 100.0% due to independent rounding.

Source: State of California, Office of Statewide Health Planning and Development.

Table 66

15 LEADING HOSPITAL DIAGNOSES(1)  
 AMERICAN INDIAN/ALASKA NATIVE DISCHARGES(2)  
 FEMALE AND MALE  
 NON-FEDERALLY RECOGNIZED COUNTIES  
 CALIFORNIA, 1988

ICD-9(3) CODE	DIAGNOSIS	NUMBER	PERCENT
	ALL DIAGNOSES	592	100.0(4)
V30	SINGLE LIVEBORN	74	12.5
650	DELIVERY IN A COMPLETELY NORMAL CASE	31	5.2
765	DISORDERS RELATING TO SHORT GESTATION AND UNSPECIFIED LOW BIRTHWEIGHT	24	4.1
493	ASTHMA	17	2.9
250	DIABETES MELLITIS	16	2.7
486	PNEUMONIA, ORGANISM'UNSPECIFIED	15	2.5
682	OTHER CELLULITIS AND ABSCESS	15	2.5
664	TRAUMA TO PERINEUM AND WLVA DURING DELIVERY	14	2.4
194	MALIGNANT NEOPLASM OF OTHER ENDOCRINE GLANDS AND RELATED STRUCTURES	10	1.7
574	CHOLELITHIASIS	10	1.7
466	ACUTE BRONCHITIS AND BRONCHIOLITIS	9	1.5:
996	COMPLICATIONS PECULIAR TO CERTAIN SPECIFIED PROCEDURES	9	1.5
276	DISORDERS OF FLUID, ELECTROLYTE AND ACID- BASE BALANCE	8	1.4
558	OTHER NONINFECTIOUS GASTROENTERITIS AND COLITIS	8	1.4
577	DISEASES OF PANCREAS	8	1.4
	ALL OTHER DIAGNOSES	324	54.6

(1) Principal diagnoses only.

(2) By occurrence.

(3) International Classification of Diseases, 9th Revision.

(4) Percentages may not sum to 100.0% due to independent rounding.

Source: State of California, Office of Statewide Health Planning and Development.

Table 67

15 LEADING HOSPITAL DIAGNOSES(1)  
 ALL RACES DISCHARGES(2)  
 FEMALE AND MALE  
 NON-FEDERALLY RECOGNIZED COUNTIES  
 CALIFORNIA, 1988

ICD-9(3) CODE	DIAGNOSIS	NUMBER	PERCENT
	ALL DIAGNOSES	<b>219,207(4)</b>	<b>100.0(5)</b>
<b>V30</b>	<b>SINGLE LIVEBORN</b>	<b>29,637</b>	<b>13.5</b>
650	DELIVERY IN A COMPLETELY NORMAL CASE	<b>8,319</b>	3.8
664	TRAUMA TO PERINEUM AND WLVA DURING DELIVERY	<b>4,972</b>	2.3
411	OTHER ACUTE AND SUBACUTE FORMS OF ISCHEMIC HEART DISEASE	4,316	2.0
428	HEART FAILURE	4,102	1.9
486	PNEUMONIA, ORGANISM UNSPECIFIED	3,896	1.8
574	CHOLELITHIASIS	3,371	1.5
786	SYMPTOMS INVOLVING RESPIRATORY SYSTEM AND OTHER CHEST SYMPTOMS	3,263	1.5
410	ACUTE MYOCARDIAL INFARCTION	<b>3,239</b>	1.5
427	CARDIAC DYSRHYTHMIA	3,174	1.4
493	ASTHMA	2,887	1.3
654	ABNORMALITY OF ORGANS AND SOFT TISSUES OF PELVIS	2,785	1.3
V58	OTHER AND UNSPECIFIED AFTERCARE	2,637	1.2
722	INTERVERTEBRAL DISC DISORDERS	2,441	1.1
780	GENERAL SYMPTOMS	2,304	1.1
	ALL OTHER DIAGNOSES	137,864	62.8

(1) Principal diagnoses only.

(2) By occurrence.

(3) International Classification of Diseases, 9th Revision.

(4,) Excludes 89 discharges missing information on principal diagnosis.

(5) Percentages may not sum to 100.0% due to independent rounding.

Source: State of California, Office of Statewide Health Planning and Development.



Table 68

TOTAL HOSPITAL CHARGES BY PAYER SOURCE  
AMERICAN INDIAN/ALASKA NATIVE DISCHARGES(1)  
CALIFORNIA, 1988

PAYER	TOTAL CHARGES(2) (in dollars)
ALL PAYERS	42,259,016
TOTAL, GOVERNMENT PAYERS	27,425,142
Medicare	8,237,415
Medi-Cal	13,754,491
Worker's Compensation	389,609
Title V	342,266
Medically Indigent Services	3,010,157
Other Government	1,691,204
TOTAL, PRIVATE PAYERS	11,761,720
Indemnity	8,840,835
Prepaid (HMO/PHP)	2,920,885
SELF-PAY	2,690,690
TOTAL, OTHER PAYERS	381,464
No Charge (free, research, etc.)	65,556
Other Non-government	315,908

(1) By occurrence.

(2) Excludes discharges from Kaiser hospitals, for which financial information was incomplete.

Source: State of California, Office of Statewide Health Planning and Development.

Table 69

EXPECTED PRINCIPAL SOURCE OF PAYMENT FOR HOSPITALIZATION  
 AMERICAN INDIAN/ALASKA NATIVE AND ALL RACES'DISCHARGES(1)  
 CALIFORNIA, 1988

PAYER	AMERICAN INDIAN/ ALASKA NATIVE		ALL RACES	
	NUMBER	PERCENT	NUMBER	PERCENT
ALL PAYERS	<b>6,671(2)</b>	<b>100.0(3)</b>	<b>3,595,491(4)</b>	100.00
TOTAL, GOVERNMENT PAYERS	3,651	54.7	<b>1,747,954</b>	48.6
Medicare	833	12.5	914,767	25.4
Medi-Cal	2,092	31.4	621,396	17.3
Worker's Compensation	67	1.0	39,378	1.1
Title V	8	0.1	<b>6,158</b>	0.2
Medically Indigent Services	410	6.1	87,656	2.4
Other Government	241	3.6	78,599	2.2
TOTAL, PRIVATE PAYERS	2,237	33.5	<b>1,567,203</b>	43.6
Indemnity	1,204	18.0	914,427	25.4
Prepaid (HMO/PHP)	1,033	15.5	652,776	18.2
SELF-PAY	723	10.8	<b>238,170</b>	6.6
TOTAL, OTHER PAYERS	60	0.9	42,164	1.2
No Charge (free, research, etc.)	11	0.2	5,829	0.2
Other Non-government	49	0.7	36,335	1.0

(1) By occurrence.

(2) Excludes 1 discharge missing information on payer source.

(3) Percentages may not sum to 100.0% due to independent rounding.

(4) Excludes 1,178 discharges missing information on payer source.

Source: State of California, Office of Statewide Health Planning and Development.

Table 70

EXPECTED PRINCIPAL SOURCE OF PAYMENT FOR HOSPITALIZATION BY SEX  
AMERICAN INDIAN/ALASKA NATIVE DISCHARGES(1)  
CALIFORNIA, 1988

PAYER	FEMALE PERCENT	MALE PERCENT
ALL PAYERS	<b>100.0(2)</b>	<b>100.0</b>
TOTAL, GOVERNMENT PAYERS	<b>54.9</b>	54.7
Medicare	11.6	13.7
Medi-Cal	35.0	26.7
Worker's Compensation	0.6	1.5
Title V	0.2	0.1
Medically Indigent Services	4.2	8.7
Other Government	3.3	4.0
TOTAL, PRIVATE PAYERS	33.6	33.5
Indemnity	17.8	18.5
Prepaid (HMO/PHP)	15.8	15.0
SELF-PAY	<b>11.0</b>	10.6
TOTAL, OTHER PAYERS	0.7	1.2
No Charge (free, research, etc.)	<b>0.1</b>	0.2
Other Non-government	0.6	1.0

(1) By occurrence.

(2) Percentages may not sum to 100.0% due to independent rounding.

Source: State of California, Office of Statewide Health Planning and Development.

Table 71

EXPECTED PRINCIPAL SOURCE OF PAYMENT FOR PREGNANCY-RELATED(1) HOSPITALIZATION  
 AMERICAN INDIAN/ALASKA NATIVE AND ALL RACES DISCHARGES(2)  
 CALIFORNIA, 1988

PAYER	AMERICAN INDIAN/ ALASKA NATIVE PERCENT	ALL RACES PERCENT
ALL PAYERS	100.0(3)	100.0
TOTAL, GOVERNMENT PAYERS	46.2	33.3
Medicare	0.9	0.2
Medi-Cal	40.6	29.5
Worker's Compensation	0.0	0.0
Title V	0.0	0 . 0
Medically Indigent Services	1.6	1.5
Other Government	3.1	2.1
TOTAL, PRIVATE PAYERS	38.0	55.7
Indemnity	17.4	29.4
Prepaid (HMO/PHP)	20.6	26.3
SELF-PAY	15.4	9.9
TOTAL, OTHER PAYERS	0.4	1.2
No Charge (free, research, etc.)	0.0	0.1
Other Non-government	0.4	1.1

(1) Principal diagnoses with codes 630-676 from International Classification of Diseases, 9th Revision (ICD-9).

(2) By occurrence.

(3) Percentages may not sum to 100.0% due to independent rounding.

Source: State of California, Office of Statewide Health Planning and Development.

Table 72

EXPECTED PRINCIPAL SOURCE OF PAYMENT FOR HOSPITALIZATION BY AGE  
 AMERICAN INDIAN/ALASKA NATIVE DISCHARGES(1)  
 CALIFORNIA, 1988

PAYER	<15 YEARS PERCENT	15-24 YEARS PERCENT	25-64 YEARS PERCENT	65+ YEARS PERCENT
ALL PAYERS	100.0(2)	100.0	100.0	100.0
TOTAL, GOVERNMENT PAYERS	48.3	52.4	49.4	90.8
Medicare	0.0	0.9	5.5	78.2
Medi-Cal	44.0	38.6	28.0	9.9
Worker's Compensation	0.0	1.1	1.7	0.2
Title V	0.5	0.0	0.0	0.0
Medically Indigent Services	0.9	5.0	10.5	1.7
Other Government	3.0	6.8	3.7	0.8
TOTAL, PRIVATE PAYERS	40.1	30.8	38.1	6.2
Indemnity	22.2	14.8	21.2	2.0
Prepaid (HMO/PHP)	17.9	16.0	17.0	4.2
SELF-PAY	10.7	15.9	11.5	2.8
TOTAL, OTHER PAYERS	0.8	0.9	1.0	0.6
No Charge (free, research, etc.)	0.1	0.0	0.3	0.2
Other Non-government	0.8	0.9	0.8	0.4

(1) By occurrence.

(2) Percentages may not sum to 100.0% due to independent rounding.

Source: State of California, Office of Statewide Health Planning and Development.

Table 73

EXPECTED PRINCIPAL SOURCE OF PAYMENT FOR HOSPITALIZATION BY AGE  
ALL RACES DISCHARGES(1)  
CALIFORNIA, 1988

PAYER	<15 YEARS PERCENT	15-24 YEARS PERCENT	25-64 YEARS PERCENT	65+ YEARS PERCENT
ALL PAYERS	100.0 (2)	100.0	100.0	100.0
TOTAL, GOVERNMENT PAYERS	35.3	42.3	30.9	91.2
Medicare	0.0	0.8	6.7	87.4
Medi-Cal	31.5	32.4	14.9	3.2
Worker's Compensation	0.0	1.2	2.2	0.1
Title V	0.7	0.2	0.0	0.0
Medically Indigent Services	0.7	3.7	4.4	0.1
Other Government	2.5	4.1	2.7	0.3
TOTAL, PRIVATE PAYERS	54.0	44.8	60.2	7.6
Indemnity	29.2	25.4	37.3	3.0
Prepaid (HMO/PHP)	24.8	19.4	22.8	4.6
SELF-PAY	9.3	11.3	7.5	1.0
TOTAL, OTHER PAYERS	1.4	1.7	1.5	0.3
No Charge (free, research, etc.)	0.1	0.2	0.2	0.0
Other Non-government	1.3	1.4	1.3	0.2

(1) By occurrence.

(2) Percentages may not sum to 100.0% due to independent rounding.

Source: State of California, Office of Statewide Health Planning and Development.

Chart 45

HOSPITAL DISCHARGES <15 YEARS OF AGE BY PAYER SOURCE  
AMERICAN INDIANS/ALASKA NATIVES AND ALL RACES  
CALIFORNIA, 1988

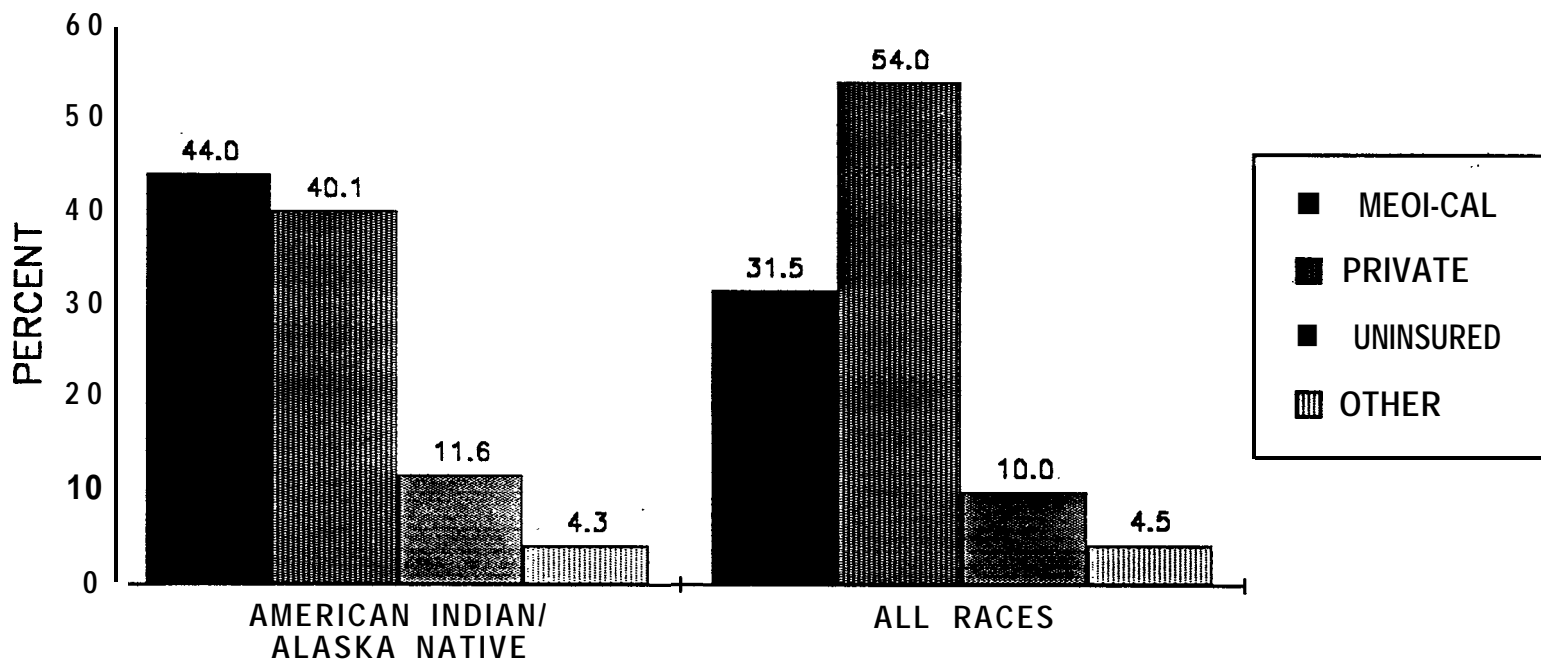


Chart 46

HOSPITAL DISCHARGES 15-24 YEARS OF AGE BY PAYER SOURCE  
AMERICAN INDIANS/ALASKA NATIVES AND ALL RACES  
CALIFORNIA, 1988

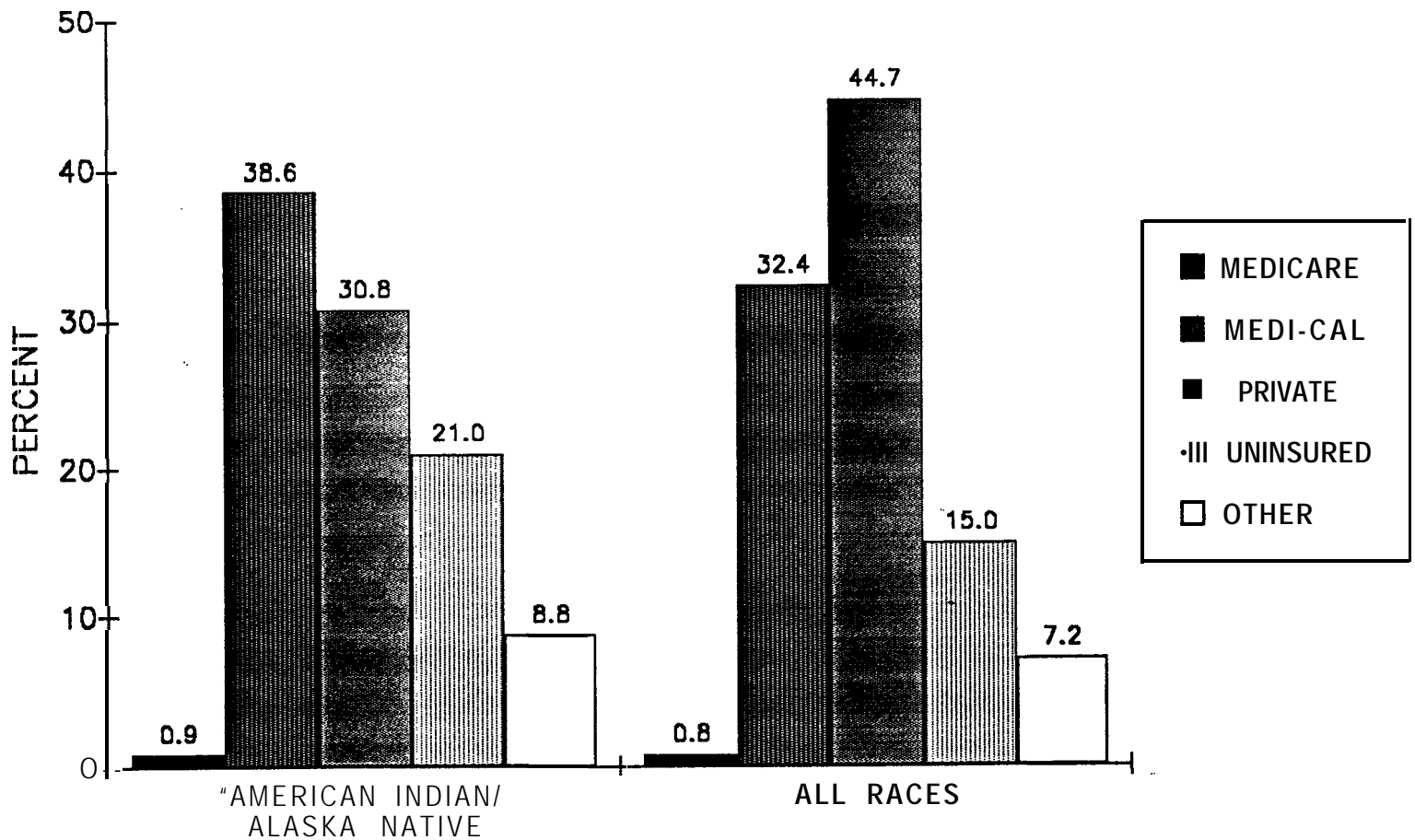




Chart 47

HOSPITAL DISCHARGES 25-64 YEARS OF AGE BY PAYER SOURCE  
AMERICAN INDIANS/ALASKA NATIVES AND ALL RACES  
CALIFORNIA, 1988

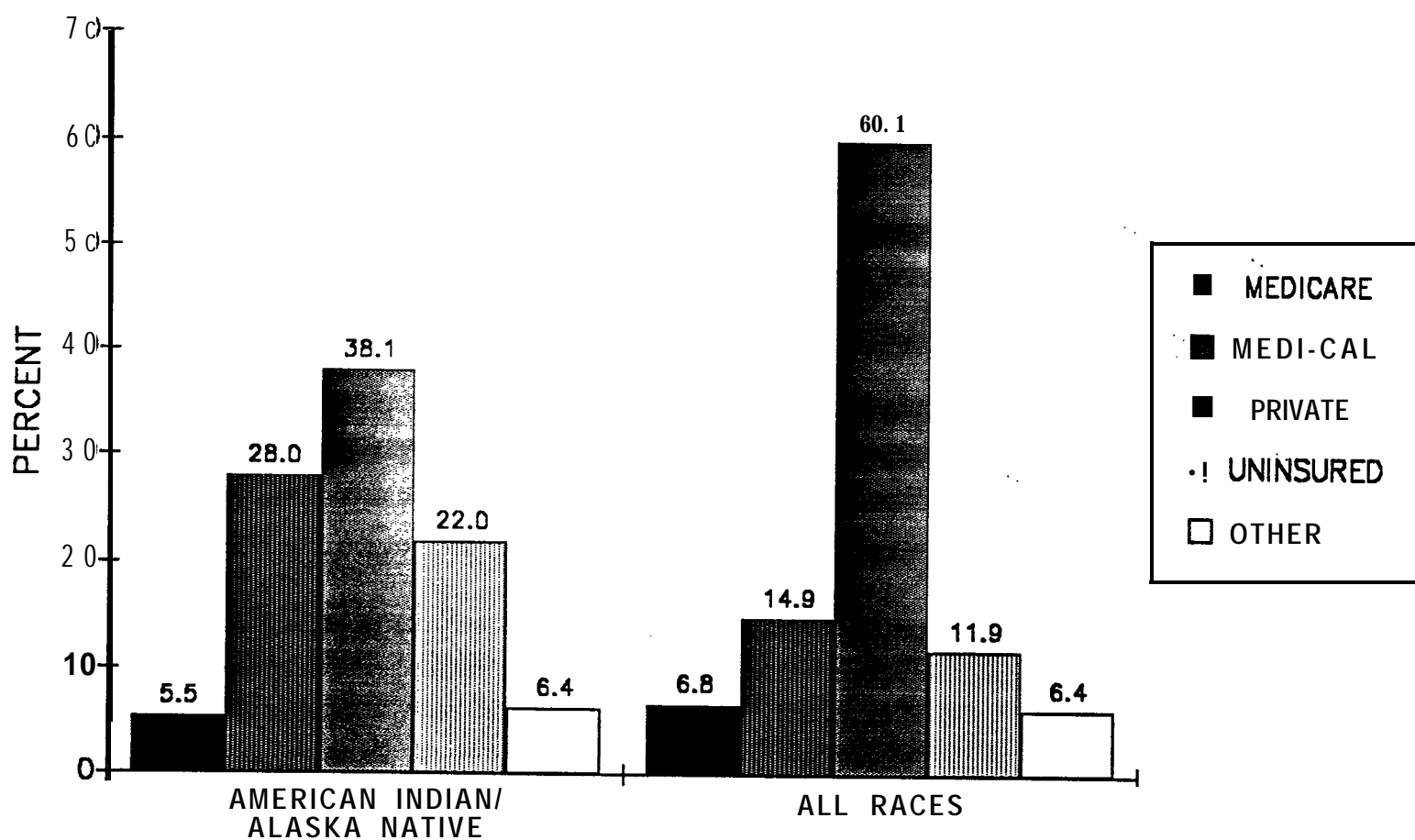


Chart 48

HOSPITAL DISCHARGES 65+ YEARS OF AGE BY PAYER SOURCE  
AMERICAN INDIANS/ALASKA NATIVES AND ALL RACES  
CALIFORNIA, 1988

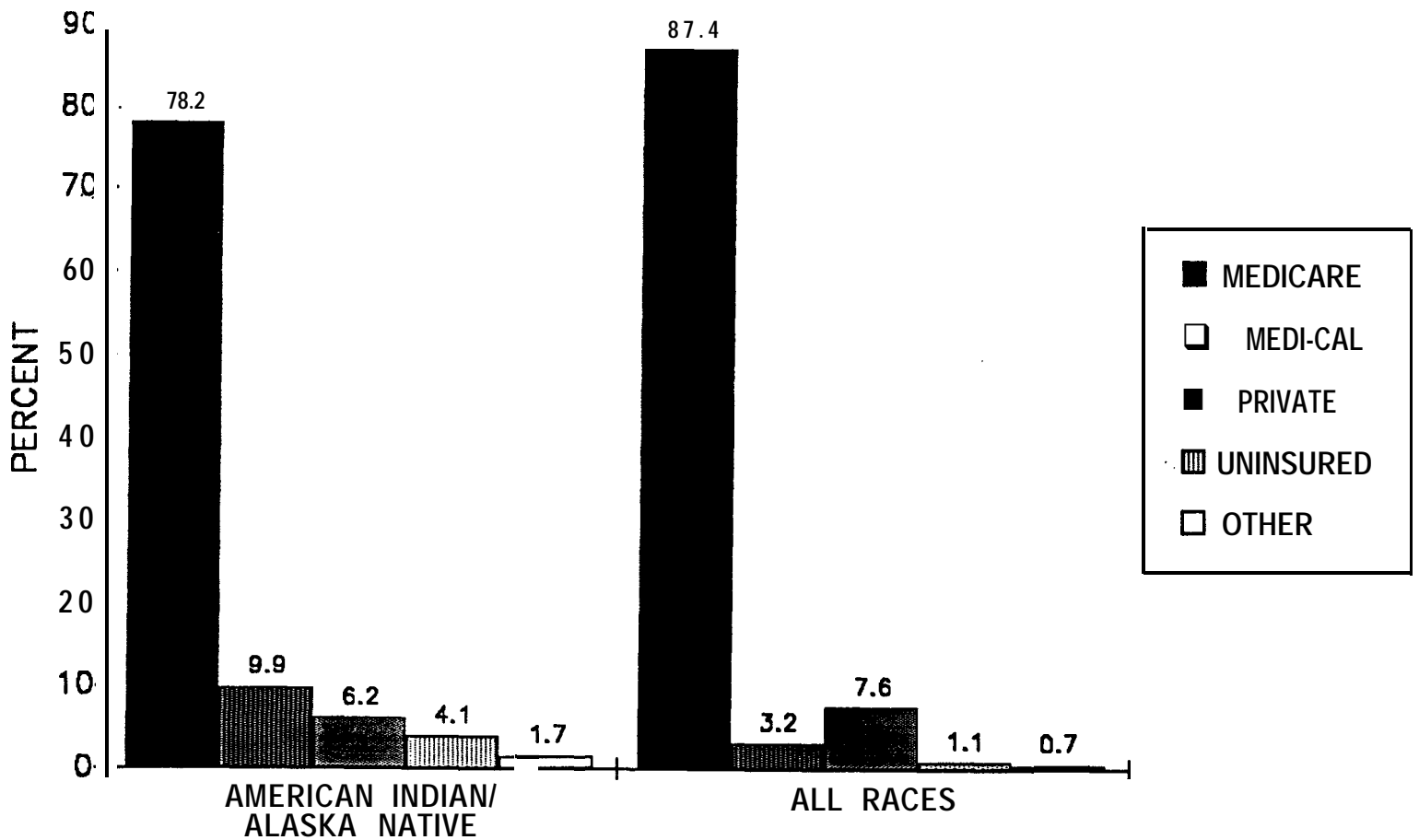


Table 74

REPORTED AMERICAN INDIAN/ALASKA NATIVE CASES  
OF SELECTED INFECTIOUS DISEASES  
CALIFORNIA, 1989

DISEASE	NUMBER OF AMERICAN INDIAN/ ALASKA NATIVE CASES	PERCENT(1) OF ALL RACES CASES
Gonorrhea	<b>206(2)</b>	<b>0.3(2)</b>
Syphilis	20	0.2
Tuberculosis	29	0.7
Hepatitis B	11	0.6

(1) According to the 1990 Census, AI/AN, including Hispanics, make up 0.8% of the State's population; excluding **Hispanics, the** AI/AN population is 0.6% of the total.

(2) Increased from 170 cases in 1988, which represented 0.2% **of total** reported cases in that year.

Source: State of California, Department of Health Services: STD Control Program; Infectious Disease Branch, Statistical Services Unit.

Table 75

AMERICAN INDIANS/ALASKA NATIVES  
SERVED BY SELECTED STATE AND FEDERAL HEALTH AND WELFARE PROGRAMS  
BY TYPE OF COUNTY(1) .  
CALIFORNIA, 1987-90.

PROGRAM	ALL 56		FEDERALLY RECOGNIZED		NON-FEDERALLY RECOGNIZED	
	NUMBER	PERCENT(\$) OF TOTAL IN STATE	NUMBER	PERCENT(3) OF TOTAL IN COUNTY GROUP	NUMBER	PERCENT(4) OF TOTAL IN COUNTY GROUP
cases in Department 'of Social Services Programs, April 1990						
AFDC	5,924	0.6				
Social Services	1,449	0.6			n/a(5)	
GAIN	2,369	1.3				
Households Participating in Food Stamp Programs, July 1990						
Assistance	4,557	1.0	1,251	1.5	944	1.6
Non-Assistance	1,676	0.6	346	1.3	302	1.5
Total	6,435	0.9	1,599	1.4	1,246	1.7
<b>Medi-Cal</b>						
<b>Certified Eligibles, January 1990</b>	16,611	0.5				
Eligibles, FY 1986-69	23,650	0.6			n/a	
Recipients, FY 1966-69	17,131	0.5				
Office of Family Planning Clients Served, FY 1966-69	1,766	0.4	406	0.5	140	0.5
Mental Health Clients, FY 1967-66	1,660	0.6	291	0.6	243	1.0
Child Health and Disability Program						
Children Receiving Services	5,455	0.6			n / a	
Health Assessments, FY 1966-69	6,522	0.5	1,766	0.1	951	0.1
Department of Developmental Services						
Clients Served, 1990						
1990 - All Ages	462	0.5				
1990 - Over Age 50	33	0.6			n/a	
1990 - Under Age 16	150	0.5				
Department of Rehabililtatlon						
Clients Served, FY 1989-90	990	0.7			n/a	
Preventive Health Care for the Aging						
Clients Served, FY 1989-90	66	0.5			n/a	

(continued)

**Table 75 (continued)**

- (1) See Appendix 2 for definitions of county groups.
- (2) According to the 1990 Census, American Indians/Alaska Natives, including Hispanics, make up 0.8% of the State's total population; excluding Hispanics, the AI/AN population is 0.6% of the total.
- (3) According to the 1990 Census, American Indians/Alaska Natives, including Hispanics, make up 1.0% of the total population of the Federally Recognized Counties; excluding Hispanics, the AI/AN population is 0.8% of the total.
- (4) According to the 1990 Census, American Indians/Alaska Natives, including Hispanics, make up 1.4% of the total population of the Non-Federally Recognized Counties; excluding Hispanics, the AI/AN population is 1.2% of the total.
- (5) County level data are not available.

Source: State of California, Department of Social Services, Statistical Services Bureau.  
State of California, Department of Health Services: Medical Care Statistics Section; Office of Family Planning;  
Health and Disability Prevention Branch, Management and Evaluation Unit; Preventive Health Care for the Aging.  
State of California, Department of Mental Health, Statistics and Data Analysis.  
State of California, Department of Developmental Services.  
State of California, Department of Rehabilitation, Statistics Section.

**Table 76**

AMERICAN INDIAN/ALASKA NATIVE MEDICAL RECIPIENTS  
BY TYPE OF SERVICES AND AMOUNT OF PAYMENTS  
CALIFORNIA, FY 1988

TYPE OF SERVICES	NUMBER OF AI/AN RECIPIENTS	PERCENT OF TOTAL RECIPIENTS (1)	AMOUNT OF PAYMENTS (in dollars)	PERCENT OF TOTAL PAYMENTS
Total Number of Recipients	17,131	0.5	16,157,420	0.3
Inpatient Hospital Services	2,038	0.4	7,778,602	0
Mental Hospital Services (Aged)	0	0.0	0	0.0
SNF (2) / ICF (3) Mental Health (Aged)	0	0.0	0	0.0
Inpatient Psychiatric Facility	0	0.0	0	0.0
ICF Services (Mentally Retarded)	6	0.1	150,783	0.0
ICF Services (All Other)	4	0.1	6,492	0.0
SNF Services	130	0.1	1,444,425	0.0
Physician Services	10,043	0.4	2,379,104	0.0
Dental Services	14	0.3	1,917	0.2
Other Practitioner Services	2,381	0.4	236,268	0.4
Outpatient Hospital Services	8,287	0.5	1,238,281	0.0
Clinic Services	4,520	1.3	642,309	0.0
Home Health Services	73	0.3	18,467	0.1
Family Planning Services	1,033	0.7	129,025	0.7
Lab and X-Ray Services	7,235	0.5	495,854	0.0
Prescribed Drugs	11,624	0.5	776,780	0.0
Early and Periodic Screening	3,753	0.7	275,500	0.6
Rural Health Clinic Services	938	2.3	185,264	2.9
Other	1,761	0.3	398,349	0.0

(1) According to the 1990 Census, American Indians/Alaska Natives, including Hispanics, make up 0.8% of the State's total population; **excluding Hispanics**, the AI/AN population is **0.6%** of the total.

(2) Skilled Nursing Facility.

(3) Intermediate Care Facility.

Source: State of California, Department of Social Services, Statistical Services Bureau.

Table 77

CHARACTERISTICS OF CLIENTS FUNDED BY STATE OFFICE OF FAMILY PLANNING  
AMERICAN INDIANS/ALASKA NATIVES AND ALL RACES  
CALIFORNIA, FY 1988

TYPE OF CLIENT	NUMBER OF AMERICAN INDIANS/ ALASKA NATIVES		PERCENT OF ALL RACES(1)	
Total OFP Funded Clients	1,768		0.4	
Pregnancy Test Only	341		0.5	
Female Contraceptive Clients	1,380		0.4	
Male Contraceptive Clients	21		0.8	

AGE OF CONTRACEPTIVE CLIENTS (Female and Male)	AMERICAN INDIAN/ ALASKA NATIVE		ALL RACES	
	NUMBER	PERCENT	NUMBER	PERCENT
ALL AGES	1,401	100.0(2)	395,770	100.0
<15	23	1.6	2,864	0.7
15-18	412	29.4	73,222	18.5
19-24	541	38.6	161,722	40.9
25-29	256	18.3	88,481	22.4
30-34	111	7.9	45,398	11.5
35-39	40	2.9	16,920	4.3
40+	18	1.3	7,163	1.8

(continued)

Table 77 (continued)

FEMALE CONTRACEPTIVE METHOD	AMERICAN INDIAN/ ALASKA NATIVE		ALL RACES	
	NUMBER	PERCENT	NUMBER	PERCENT
ALL METHODS	1,380	<b>100.0</b>	393,145	100.0
Fertility Awareness	2	0.1	411	0.1
Natural Method	3	0.2	1,163	0.3
Oral Contraceptives	<b>985</b>	71.4	290,942	74.0
IUD	21	1.5	10,549	2.7
Diaphragm	46	3.3	10,159	2.6
Foam/Jelly/Cream/ Suppository	7	0.5	2,906	0.7
Condoms	68	4.9	16,245	4.1
Foam & Condom	83	6.0	18,650	4.7
Sponge	15	1.1	3,277	0.8
Other	29	2.1	16,444	4.2
None(3)	121	8.8	22,399	5.7

(1) According to the 1990 Census, American Indians/Alaska Natives, including Hispanics, make up 0.8% of the State's total population; excluding Hispanics, the AI/AN population is 0.6% of the **total**.

(2) Percentages may not sum to 100.0% due to independent rounding.

(3) Reasons for no contraceptive method include pregnancy or seeking pregnancy; medical reasons such as high blood pressure, infection, **etc.**; dissatisfaction with previous method chosen; or client is no longer sexually active.

Source: State of California, Department of Health Services, Office of Family Planning.



Table 78

CHARACTERISTICS OF AMERICAN INDIANS/ALASKA NATIVES  
SERVED BY STATE DRUG AND ALCOHOL PROGRAMS  
BY TYPE OF COUNTY(1)  
CALIFORNIA, FY 1989

## TYPE OF COUNTY

	ALL 58		FEDERALLY RECOGNIZED		NON-FEDERALLY RECOGNIZED	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
TOTAL	<b>1,011</b>	<b>100.0 (2)</b>	240	100.0	<b>106</b>	100.0
S E X						
Female	562	55.6	125	52.1	60	56.6
Male	449	44.4	115	47.9	46	43.4
AGE AT ADMISSION						
<18	69	6.8	17	7.1	9	8.5
18-65	941	93.1	223	92.9	97	91.5
65+	1	0.1	0	0.0	0	0.0
ADMISSION MODALITY						
Detoxification	410	40.6	83	34.6	45	42.5
Maintenance	141	13.9	35	<b>14.6</b>	9	8.5
Drug Free.	446	44.1	113	47.1	51	48.1
Other	14	1.4	9	3.8	1	0.9
ADMISSION ENVIRONMENT						
Outpatient	876	86.6	199	82.9	101	95.3
Resident	119	11.8	28	11.7	5	4.7
Prison	13	1.3	10	4.2	0	<b>0.0</b>
Day Care	3	0.3	0	0.0	0	<b>0.0</b>
Other	0	0.0	3	1.3	0	<b>0.0</b>
PRIVATE HEALTH INSURANCE AT ADMISSION						
Private Coverage	39	3.9	9	3.8	0	<b>0.0</b>
No Private Insurance	970	95.9	231	96.3	106	100.0
Unknown	2	0.2	0	0.0	0	0.0
ADMISSION PRIMARY DRUG TYPE						
Heroin	629	62.2	146	60.8	64	60.4
Other Opiates	4	0.4	1	0.4	0	0.0
Alcohol	41	4.1	4	1.7	6	5.7
Barbiturates	1	0.1	0	0.0	0	0.0
Amphetamines	125	12.4	<b>57</b>	23.8	12	11.3
Cocaine	111	11.0	19	7.9	8	7.5
Marijuana/Hashish	67	6.6	<b>11</b>	4.6	9	8.5
Hallucinogens	2	0.2	0	0.0	0	0.0
Inhalants	4	0.4	0	0.0	1	0.9
Over-the-Counter	1	0.1	0	0.0	0	0.0
PCP	26	2.6	2	0.8	5	4.7

(continued)

Table 78 (continued)

(1) See Appendix for definitions of county groups.

(2) Percentages may not sum to 100.0% due to independent rounding.

. Source: State of California, Department of Alcohol and Drug Programs.

Table 79

MAJOR DISABILITIES  
STATE DEPARTMENT OF REHABILITATION CLIENTS  
AMERICAN INDIANS/ALASKA NATIVES AND ALL RACES  
CALIFORNIA, FY 1989

	AMERICAN INDIAN/ ALASKA NATIVE		ALL RACES	
	NUMBER	PERCENT	NUMBER	PERCENT
TOTAL	990	<b>100.0(1)</b>	133,900	100.0
Visual	36	3.6	6,654	5.0
Hearing	34	3.4	6,928	5.2
Physical	389	39.3	54,267	40.5
Psychoneurosis	60	6.1	16,379	12.2
Alcoholism	295	29.8	16,296	1 2 . 2
Drug Addiction	92	9.3	14,833	1 1 . 1
Other Mental	22	2.2	4,601	3 . 4 .
Mental Retardation	47	4.8	<b>11,415</b>	8.5
Acute Traumatic Brain Injury	14	1.4	<b>2,245</b>	1.7
No Disability	1	0.1	<b>282</b>	0.2

(1) Percentages may not sum to 100.0% due to independent rounding.

Source: State of California, Department of Rehabilitation, Administrative Services Division, Statistics Section

Table 80

Registration Codes  
for Non-Federally Recognized Indians of California

Code 740	CALIFORNIA INDIANS with public domain/Indian allotment trust interest. This code <b>is</b> to be used for an Indian who hold8 trust interest8 in public domain, national forest, or Indian reservation allotment8 in California.
Code 741	CALIFORNIA INDIANS on <b>Rancheria/Reservation</b> asset distribution list. This code is to be used for any Indian in California who is listed on the plans for distribution of the assets of California <b>Rancherias</b> and Reservation8 under the Act of August 18, 1958 (72 <b>Stat. 619</b> ), and any descendant8 of <b>such</b> an Indian.
Code 742	DESCENDANTS OF CALIFORNIA INDIANS with Indian ancestors residing in California on June 1, 1852, but only if such descendant:  a) is living in California; b) is a member of the Indian community served by a local program of the service; and c) is regarded as an Indian by the community in which such descendant lives.

In order to properly capture the information required by Congress, the Task Force **members**, the California Area office and IHS Headquarters came up with the following heirarchy:

- 1) Assign the patient a Tribe of Membership code.
- 2) If the patient can not be assigned a membership code, then determine if code 740 best fits the patient.
- 3) If code 740 does not apply, then go to code 741.
- 4) If code 741 does not apply, then go to code 742.
- 5 ) If code 742 does not apply, then assign code 000.

Source: **Memo**, from T.J. Harwood, Director, IHS/California Area **Office to** Program Directors, December 16, 1988 (Appendix 9).

Table 81

Survey of American Indians and Alaska Natives (SAIAN) Origin  
of Questions in Assessment of Non-federally Recognized Indians of California

<u>Subject of Questions</u>	<u>Assessment Form</u>	<u>SAIAN Source</u>
Health Statue Utilization of Health Care	Page 2	Adult <b>Self-</b> Administered Questionnaire
Usual source <b>of</b> medical care	Page <b>3,4</b>	Access Suppl
Alternate source of medical care	Page <b>5,6</b>	Access Suppl.
Financial resources for health care	Page 7	Household Survey
Factors influencing choice of health care provider	Page 8	-
Unmet health care needs	Page 9	Access Suppl.
Demographic information	Page 10	-

**Source :** Agency for Health Care Policy and Research.

Table 82

Disposition of **Forms**  
 Assessment of Non-federally Recognized Indians of California  
 1991

	Number	Percent
Completed Forms:		
Conducted in person:	284	
Conducted by phone:	123	
Total	407	40%
Refused to participate:	38	4%
Died	24	2%
Could not be contacted	474	47%
Forms not returned	69	7%
<b>Total</b>	<b>1013</b>	<b>100%</b>

Table 83

Comparison of Respondents to Non-respondents  
 Assessment of Non-federally Recognized Indians of California  
 1991

	Respondents n = 407	Non-respondents <b>n=582</b>
Gender		
Male	44%	54%
Female	56%	46%
<b>Age</b> (in years)		
18-24	14%	22%
25-54	63%	64%
55-65	10%	7%
66 or greater	13%	7%

Table 84

Tribal Status among Respondents  
Assessment of Non-federally Recognized Indians of California  
1991

	Responded "YES" <sup>1</sup> (n=348)	Reclassified <sup>2</sup> n (%)
Assessment Eligibility Criteria		
Code 740 - Trust land/allotments	67	36 (10%)
Code 741 - California Indian Judgement	215	83 (24%)
Code 742 - Descendant of a California Indian	320	65 (19%)
Enrolled in a Federally recognized tribe	164	164 (47%)
Seeking enrollment in a Federally recognized tribe	97	

- 1 Responded "yes" when asked if they were eligible for the **particular** category. These are not mutually exclusive categories and do not **equal** 100%.
- 2 The responses are reclassified according to IHS system outlined in Table **80**. The total **equals** 100%



Table 85

Demographics of  
Non-federally Recognized Indians of California (NRICA) 1991,  
American Indians and Alaska Natives in the  
Survey of American Indians and Alaska Natives (SAIAN) 1987,  
and United States All Races Population in the  
National Medical Expenditure Survey (**NMES**) 1987

	NRICA	SAIAN <sup>1</sup>	<b>NMES</b> <sup>2</sup>
Age in years			
18-24	12%	17%	13%
25-54	65%	61%	58%
55-64	10%	11%	13%
<b>&gt;65</b>	13%	11%	16%
<b>Sex</b>			
Males	41%"	49%	48%
Females	58%"	51%	52%
Education <sup>3</sup>			
Less than 11 yrs	39%	43%	25%
12 years	50%	36%	37%
More than 12 yrs	11%	21%	38%
Household Size			
1 person	12%	5%	15%
2 - 4 persons	59%	55%	65%
5 persons or more	23%	41%	20%
Number of children in the family <sup>4</sup>			
0	53%	73%	(not available)
1 or more	47%	27%	
Household Income			
<b>&lt;\$6,000</b>	21%	(not available)	
<b>\$6-12,000</b>	37%		
<b>\$12-18,000</b>	17%		
More than \$18,000	17%		
Declined	8%		

1 American Indians/Alaska Natives living on or near reservation and eligible for IHS.

2 United States all races population.

3 Restricted to over age 18 for the assessment of non-federally recognized Indians of California and over 16 for the SAIAN and **NMES**.

4 Assessment of non-federally recognized Indians of California defined children **<16** years of age; SAIAN defined children **<18** years of age.

Source: Agency for Health Care Policy and Research.

\* Assessment of non-federally recognized Indians of California utilized a stratified sampling technique, while the SAIAN and **NMES** were designed to produce statistically unbiased estimates of their sample populations.

Table 86

Health Status, Care Utilization, and **Access Measures** of  
 Non-federally Recognized Indians of California (**NRICA**) 1991,  
 American Indians and Alaska Natives in the  
 Survey of American Indians and Alaska Natives (**SAIAN**) 1987,  
 and United States All Races Population in the  
 National Medical Expenditure Survey (**NMES**) 1987

	<b>NRICA</b>	SAIAN	us
Perceived health status'			
Excellent/Good	66%	72%	80%
Fair/Poor	32%	28%	20%
Percent with one or more chronic diseases <sup>2</sup>			
Yes	28%	42%	39%
No	72%	58%	61%
Reported a usual source of care			
Yes	75%	91%	82%
No	25%	9%	18%
Travel time to usual source			
Less than 16 minutes	47%	26%	47%
16 to 30 minutes	36%	27%	27%
Over 30 minutes	17%	17%	7%
Office waiting time			
Less than 16 minutes	49%	26%	47%
16 to 30 minutes	36%	27%	29%
Over 30 minutes	15%	40%	15%
Health care visits in 1990			
None	20%	(not available)	
<b>1-3</b>	32%		
3-10	30%		
<b>&gt;10</b>	28%		
Percent that received a Community Health Resource (CHR) visit in 1990			
Yes	36%	(not available)	
No	64%		
Out-of-pocket expenses for health care in 1990			
<b>\$0</b>	62%	(not available)	
<b>\$1-99</b>	11%		
\$100-499	14%		
<b>&gt;\$500</b>	12%		

1 NRICA and SAIAN populations adjusted to US age distribution and restricted to age over 18 years. Source: Personal communication, **K.** Beurgard, AHCPR.

2 'The SAIAN and NMES included "arthritis and rheumatism" as a chronic condition; this was not included in the NRICA assessment.

Source: Agency for Health Care Policy and- Research.

Table 87  
Health Care Coverage  
of Non-federally Recognized Indians of California  
1991

	Currently Held	Used in 1990	Presumed Eligible
Private health insurance	<b>24%</b>	<b>22%</b>	<b>26%</b>
Medi-Cal (Medicaid Program)	28%	30%	<b>35%</b>
Medicare	14%	<b>12%</b>	<b>15%</b>
County Medically Indigent Program	<b>5%</b>	<b>5%</b>	a%
Veterans Health Benefits	<b>3%</b>	1%	3%
Other	a%	a%	<b>6%</b>
No health coverage*	33%		<b>29%</b>

\* Calculated variable, based on having a "no" answer to all of the above questions.

Table 88

Comparison of Health Care Coverage of  
 Non-federally Recognized Indians of California (NRICA) 1991,  
 American Indians and Alaska Natives in the  
 Survey of American Indians and Alaska Natives (SAIAN) 1987,  
 and Other US Population Subgroups in the  
 National Medical Expenditure Survey (NMES) 1987

Population	Private Insurance	Public Coverage	Uninsured
	(%)	(%)	(%)
NRICA - Current	24	43	33
NRICA - Possible Eligible	26	55	19
<b>SAIAN<sup>1</sup></b>	28	17	55
United States	75	1 0	16
White	81	7	12
Black	53	25	22'
Hispanic	50	18	31

1 American Indians and Alaska Natives living on or near reservation and eligible for IHS. Non-IHS insurance sources are described here.

Source: Agency for Health Care Policy and Research.

Table 89

Location of Current and Alternate Health Care Site  
 Assessment of Non-federally Recognized Indians of California\*, 1991

Type of Health Care Site	Current	Alternate
Tribal Health Program	60%	38%
Doctor's office or group practice	24%	22%
Neighborhood/Community Health Center	3%	5%
Hospital Outpatient Clinic	2%	3%
Company Industrial Clinic	1%	0%
Emergency Department	4%	12%
Urgent Care Center	2%	3%
County Health Clinic	3%	7%
Other	1%	2%
Don't know		7%
Total	<b>100%</b>	100%

\* Restricted to those **who reported** a usual source of care (n = 260).

Table 90

Percent of Non-federally Recognized Indians-of California  
Reporting an Unmet Health Care Need in 1990

Dental care	24%
Other items (eyeglasses, diabetes care items, orthopedic supplies)	19%
Prescribed medicines	18%
Emergency care	12%
Home services	8%
Mental health services	4%
Hospital stay	5%
Operation	4%
Alcohol or drug treatment	3%
Pregnancy care	3%
One or more unmet need	34%

Table 91

Factors Important in Choice of Health Care  
 Assessment of Non-federally Recognized Indians of California  
 1991

	Very Important	Somewhat Important	Not Important
Staff treats me with respect and kindness	83%	10%	7%
Clinic provides dental care	69%	17%	14%
Easy to pay for	64%	20%	16%
Clinic helps me obtain other services	63%	21%	16%
Staff understands American Indian ways	60%	22%	18%
Clinic easy to get to	59%	33%	8%
Clinic has a pharmacy	46%	20%	34%
Clinic has lab and x-ray	46%	22%	32%
Waiting time is short	44%	42%	14%
Staff provides hospital care nearby	44%	28%	28%
Staff makes housecalls	25%	26%	49%

## Appendix 1

### Tribal Advisory Committee. California Area Indian Health Service P.L. 100-713 California Indian Eligibility Study

To assist the Area Director, California Area Indian Health Service, a Tribal Advisory Committee was organized in April, 1989 with the following members:

T.J. Harwood, Area Director, California Area Indian Health Service, Sacramento, CA

Virgil Akins, Tribal Operations Officer, Bureau of Indian Affairs, Sacramento, CA

C. **Allan** Beckwith, FACHE, MPS, Special Assistant to the Director California Area Indian Health Service, Sacramento, CA (Project Officer) \*\*

James Crouch, MPS, Executive Director, California Rural Indian Health Board, Sacramento, CA \*\*

Gwendolyn Doebbert, State of California Department of Health Services, Sacramento, CA \*\*

Carol Ervin, MPH, Program Director, Chapa-De Indian Health, Auburn, CA \*\*

Erin Forrest, Director, Modoc Indian Health, Alturas, CA

Steven D. Helgersen, MD, MPH, Senior IHS Epidemiologist, Seattle, WA \*\*

Tommy Merino, Association of Non-Federally Recognized Tribes of California, Taylorsville, CA

Dennis **Magee**, Director, Indian Health Council, Pauma Valley, CA

Peter **Masten**, Director, Hupa Health Association, Inc., **Hoopa**, CA

Aaron Peters, Director, Karuk Tribal Health, Happy Camp, CA

Adelaide Presley, Director, Riverside/San Bernardino Co. Indian Health, Banning, CA

Don Ray, Chairman, **Hopland** Rancheria, **Hopland**, CA

C. Chris Watson, **RPh**, MPH, Statistician, California Area/Indian Health Service, Sacramento, CA \*\*

Sandra Willburn, MPH, Chief, Indian Health Programs, State of California Department of Health Services, Sacramento, CA \*\*

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\* <sup>§</sup> Member of subcommittee that volunteered to prepare Strategy for Describing the Health Status of American Indians in California



Appendix 2

TYPES OF CALIFORNIA COUNTIES  
CLASSIFIED BY TRIBAL ADVISORY COMMITTEE  
TO STUDY THE IMPACT OF CALIFORNIA INDIAN ELIGIBILITY (P.L. 100-713)

INDIAN COUNTIES (IHS Service Area)

Alpine  
Amador  
Butte  
Calaveras  
Colusa  
Del Norte  
El **Dorado**  
Fresno  
Glenn  
Humboldt  
Imperial (Phoenix area)  
Inyo  
Kings  
Lake  
**Lassen**  
**Madera**  
Mariposa  
Mendocino  
Modoc  
Mono  
Nevada  
Placer  
**Plumas**  
Riverside  
San Bernardino  
San Diego  
Santa Barbara  
Shasta  
Sierra  
Siskiyou  
Sonoma  
Sutter  
Tehama  
Trinity  
Tulare  
Tuolumne  
Yolo  
Yuba

NON-INDIAN COUNTIES

Alameda  
Contra Costa  
Kern  
Los Angeles  
**Marin**  
**Merced**  
Monterey  
**Napa**  
Orange  
Sacramento  
San Benito  
San Francisco  
San Joaquin  
San Luis Obispo  
San Mateo  
Santa Clara  
Santa **Cruz**  
**Solano**  
Stanislaus  
Ventura

(continued)

Appendix 2 (continued)

INDIAN **COUNTIES** THAT HAVE PRIMARILY FEDERALLY RECOGNIZED INDIANS

Humboldt (Given 8K New Yurok Enrollment)

Inyo

**Lassen**

Modoc

Riverside

San Bernardino

San Diego

**INDIAN** COUNTIES TEAT **HAVE** PRIMARILY NON-FEDERALLY RECOGNIZED INDIANS

Amador

Butte

Calaveras

Colusa

El **Dorado**

Fresno

Glenn

Kings

**Madera**

Mariposa

Nevada

Placer

**Plumas**

Sierra

Sutter

Tehama

Trinity

**Yolo**

Yuba

(continued)

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Appendix 2 (continued)

**INDISPUTABLY RURAL COUNTIES**

Alpine  
Calaveras  
**Lassen**  
Mariposa  
Modoc  
Mono  
**Plumas**  
Siskiyou  
Trinity

**INDISPUTABLY URBAN COUNTIES**

Alameda  
Contra Costa  
Los Angeles  
**Marin**  
San Diego  
San Francisco  
Santa Clara

(continued)

Appendix 2 (continued)

**INDIAN COUNTIES WITH HEALTH CARE WITHIN 30 MINUTES FOR 80% OF AMERICAN INDIANS**

Butte  
Humboldt  
Inyo  
Lake  
Lassen  
Mendocino  
**Modoc**  
Riverside  
San Diego  
Shasta  
Siskiyou  
Sonoma  
Tulare  
Tuolumne

**INDIAN COUNTIES WITH HEALTH CARE WITHIN 30 MINUTES TO 50% OF AMERICAN INDIANS**

Fresno  
Mono  
Placer  
**Plumas**  
San Bernardino  
Santa Barbara

**INDIAN COUNTIES WITH HEALTH CARE NOT AVAILABLE TO AMERICAN INDIANS WITHIN 30 MINUTES**

Amador  
Calaveras  
Colusa  
Del Norte  
El **Dorado**  
Glenn  
Imperial  
Kings  
**Madera**  
Mariposa  
Nevada  
Sierra  
Sutter  
Tehama  
Trinity  
Yolo  
Yuba

# Appendix 3

## PETITION STATUS OF CALIFORNIA AMERICAN INDIAN TRIBES AS OF AUGUST 31, 1990

TRIBE	STATUS
<b>Ione</b> Band of Miwok Indians	Unresolved
Mono Lake Indian Community	Unresolved
Antelope Valley Indian Community	Unresolved
Maidu Nation	Unresolved
Kern Valley Indian Community	Unresolved
Death Valley Timbi-Sha Shoshone Band	Acknowledged
United Lumbee Nation of North Carolina and America	Declined
Coastal Band of <b>Chumash</b> Indians	Unresolved
American Indian Council <b>of Mariposa</b> County	Unresolved
Shasta Nation	Unresolved
Juaneno Band of Mission Indians	Unresolved
Tolowa Nation	Unresolved
North Fork Band of Mono Indians	Unresolved
<b>Dunlap</b> Band of Mono Indians	Unresolved
<b>Hayfork</b> Band of Nor-El-Muk Wintu Indians	Unresolved
San Luis Rey Band of Mission Indians	Unresolved
Wintu Indians of Central Valley, California	Unresolved
Wintoon Indians	Unresolved
Chukchansi Yokotch Tribe	Unresolved
Yokayo Tribe of Indians	Unresolved
Wukchumni Council	Unresolved
Choinumni Council	Unresolved
Coastanoan Band of <b>Carmel</b> Mission Indians	Unresolved
Ohlone/Coastanoan Muwekma Tribe	Unresolved
Indian Canyon Band of <b>Coastanoan/Mutsun</b>	Unresolved
Salinan Nation (Northern <b>Chumash</b> )	Unresolved
<b>Amah</b> Band of Indians (Coastanoan/Ohlone/Digger)	Unresolved

## Appendix 4-A

### NATIONAL CENTER FOR HEALTH STATISTICS ALGORITHM FOR RACIAL/ETHNIC CODING OF BIRTHS

The State of California, Department of Health Services, Health Data and Statistics Branch, using the National Center for Health Statistics' algorithm for racial/ethnic coding of births, devised a matrix for generating infants' race/ethnicity (see Attachment B on next page) in which the numbers correspond to the following categories:

10	White
11	White
20	Black
21	Black
30	American Indian
31	American Indian
40	Unspecified Asian
41	Specified Asian
42	Chinese
43	Japanese
44	Korean
45	Vietnamese
46	Cambodian
47	Thai
51	Other Specified
52	Asian Indian
53	Filipino
54	Hawaiian
55	Guamanian
56	Samoan
57	Eskimo
58	<b>Aleut</b>
59	Pacific Islanders not included in 54-56
98	Unstated
99	Unknown

Note: In analyses conducted for this report by State of California, Department of Health Services, Health Data and Statistics Branch, the Asian/Pacific Islander category included 40-47, 52-56, and 59; the Other category included 51, 98, and 99.

## Appendix 4-B

CALIFORNIA  
VITAL STATISTICS MONTHLY BIRTH SYSTEM  
DATA YEAR 1989

## MATRIX FOR GENERATING RACE/ETHNICITY OF CHILD

FIELD: RACE/ETHNICITY OF CHILD(59-60)

MOTHER

FATHER	10	11	20	21	30	31	40	41	42	43	44	45	46	47	51	52	53	54	55	56	57	58	59	92	99
10	10	11	20	21	30	31	40	41	42	43	44	45	46	47	51	52	53	54	55	56	57	58	59	92	99
11	11	11	20	21	30	31	40	41	42	43	44	45	46	47	51	52	53	54	55	56	57	58	59	92	99
20	20	20	20	21	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	23
21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
30	30	30	30	30	30	31	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41
42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42
43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43
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92	10	11	20	21	30	31	40	41	42	43	44	45	46	47	51	52	53	54	55	56	57	58	59	92	99
99	10	11	20	21	30	31	40	41	42	43	44	45	46	47	51	52	53	54	55	56	57	58	59	92	99

## Appendix 5

### INTERNATIONAL CLASSIFICATION OF DISEASES, 9TH REVISION (ICD-9) CATEGORIES USED TO DEFINE UNDERLYING CAUSES OF DEATH

ICD-9 CODES	CATEGORY
010-018	Tuberculosis
036	Meningococcal infection
070	Viral hepatitis
090-097	Syphilis
140-208	Malignant neoplasms
210-239	Benign neoplasms
250	Diabetes mellitus
280-285	Anemias
320-322	Meningitis
390-398	Diseases of the heart
401, 403	Hypertension
430-438	Cerebrovascular disease
440	Atherosclerosis
466	Acute bronchitis and bronchiolitis
480-487	Pneumonia and influenza
490-496	Chronic obstructive pulmonary diseases
531-533	Ulcer of stomach and duodenum
550-553, 560	Hernia
571	Chronic liver disease and cirrhosis
574-575	Cholelithiasis
580-589	Nephritis, <b>nephrotic</b> syndrome, and nephrosis
590	Infections of kidney
600	Hyperplasia of prostate
630-676	Complications of pregnancy, childbirth, and the puerperium
740-759	Congenital anomalies
760-779	Conditions originating in the perinatal period
800-949	Accidents
<b>E810-E825</b>	Motor vehicle
<b>E800-E807, E826-E838,</b> <b>E840-E848, E850-E858,</b> <b>E860-E876, E878-E888,</b> <b>E890-E949</b>	Other
950-959	Suicide
960-978	Homicide and legal intervention
042-044	AIDS

Source: Indian Health Service, Office of Planning, Evaluation, and Legislation.  
National Center for Health Statistics.



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Appendix 6

Indian Health Service Memo re: Updated Code Lists

September **29**, 1988



DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service  
Health Resources &  
Services Administration

Date: September 29, 1988

To: Program Director

Indian Health Service  
California Area Office  
2999 Fulton Avenue  
Sacramento, CA 95821

Subject: Updated **Code** Lists, Modification Forms, **APC** Beaber **Records**  
(**HSM-405**) and **IBS** Chart Series Book

Enclosed please **find** the latest Tribal Code update, one Chart **Series** Book, Registration **Modification forms**, and **APC** header records. Look **over** the enclosures and take the following actions.

1) Remove the California specific Tribal **Code** List sent to you with the code books. **Replace them with the enclosed update.** Note that we now have official codes for the following circumstances:

A) Non-Indian, Member of Indian Household: Code 970. Use this code as defined by the state of California Indian Health Branch in the 4 Agency Report Instructions (attached). It will be used in the IBS data base as it has been used in the 4 Agency Report. This step will help us to eliminate the 4 Agency Report in the future.

B) Indian, Non-Tribal Member: Code 997. This is a reinstatement of an old code. This code should only be used in the following circumstances:

- The patient is Indian.
- The patient is not a member of any Federally recognized or Non-Federally recognized tribe.
- The patient cannot secure membership into any Tribe at this time.

If the patient can secure membership into a Tribe, he or she should do so. Please let this office know if you have any other instances where a patient cannot be registered or modification cannot be submitted due to a missing or inadequate code. The new codes should not exclude anyone who is currently getting care.

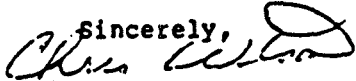
Please place the 1986 Federal Register article into the Tribe code section of your code book for future reference. If you have any questions about the wording of a code, consult the 1986 Federal Register. The Indian Health Service must use this BIA promulgated standard in developing Tribal codes. If any Tribal descriptor is inaccurate in the Federal Register, you will need to petition the BIA for resolution. The BIA will then notify Headquarters of the change.

Please add the Tribal code changes from Headquarters to your code books. We will forward updates to the Headquarters list as we receive them.

2) Please forward the Modification forms and APC Header records (HSM405) on to the appropriate staff. Call Luana Bill at this office one month before you run out. We are attempting to secure adequate supplies of these forms.

3) We just received the 1988 Chart Series Book. This is for your information and use.

If you have any questions or problems, give us a call at 916-978-4531.

Sincerely,  
  
Chris Watson R.Ph., M.P.H.  
Statistical/Pharmacy Officer  
California Area Office  
2999 Pul ton Ave.

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Appendix 7

Indian Health Service Letter re: Codes for Non-Tribal Members

December 16, 1988



DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service  
Health Resources &  
Services Administration

Indian Health Service  
California Area Office  
2999 Fulton Avenue  
Sacramento, CA 95821

December 16, 1988

Dear Program Director:

The Indian Health Service has made it mandatory that Tribal Codes be aligned with Indian Tribal Entities as published in the Federal Register. This has caused concern in California, because the new Tribal Codes do not cover certain Indians who are not members of a Tribe, but are eligible for health services under present IHS policy.

At the Program Administrators' meeting held in Sacramento, October 5-6, 1988, there was considerable discussion about the problem with the new Tribal Codes. A Task Force was organized at the meeting to assist the California Area Office in developing a code system which could be used for the California Indians who did not fit under the present Federal Recognition listing.

The Task Force recognized and discussed the problems with the new code as implemented. The main focus of the discussion was concerning the lack of a code to identify California Indians eligible for care that do not meet the Tribe of membership criteria. The Task Force discussed how the existing 997 INDIAN, NON-TRIBAL MEMBER code should be used. This Code was established to identify those Indians who reside in California, but are not members of a Tribe. This was a problem because it did not separate out descendants of California Indians.

The Task Force proposed that the California Area use the Descendants of California Indians code as per the November 1, 1988 letter to the facility directors. This Code was to be used only for those people who could not be

● Signed a new Tribal code and met the following criteria:

- 1) For a descendant of an Indian who was residing in California on June 1, 1852, is living in California, is a member of an Indian community served by a local program of the Indian Health Service, and is regarded as an Indian by the community in which he/she lives.
- 2) For an Indian who holds trust interests in public domain, national forest, or Indian allotments in California.
- 3) For an Indian who is listed on the plans for distribution of the assets of California Rancherias and Reservations under the Act of August 18, 1958 (72 stat. 619), and descendants of such Indian.

We then asked each facility director for his/her advice as to whether the code met the Tribe's needs. We gathered those responses and reviewed them with Task Force members. During this time, the 1988 Indian Health Care Amendments were signed into law. The law mandates that the California Area provide health care to persons falling into categories 1, 2, and 3 above "Until such time as any subsequent law may otherwise provide...". The law also mandates that the California Area identify the patients falling into those categories and provide Congress with:

- 1) The geographic location of these patients;
- 2) The Tribes that patients falling into groups 2 and 3 are from;
- 3) An assessment of the current health status, and health care needs of patients in groups 1, 2, and 3;
- 4) An assessment of the actual availability and accessibility of alternative resources for the health care of these patients.

The Task Force then concluded that the code should be implemented instead of one to meet the Congressional mandate. The Task Force devised the following wording and advisories for the codes. These codes have been approved by headquarters and are ready for use.

The following codes are to be used only when no Tribe of Membership code can be applied to the patient:

CODE 740: CALIFORNIA INDIANS with public domain/Indian allotment trust interest.

This code is to be used for an Indian who holds trust interests in public domain, national forest, or Indian reservation allotments in California.

CODE 741: CALIFORNIA INDIANS on Rancheria/Reservation asset distribution list.

This code is to be used for any Indian in California who is listed on the plans for distribution of the assets of California Rancherias and Reservations under the Act of August 18, 1958 (72 Stat. 619), and any descendants of such an Indian.

CODE 742: DESCENDANTS OF CALIFORNIA INDIANS with Indian ancestors residing in California on June 1, 1852.

This code is to be used for any descendant of an Indian who was residing in California on June 1, 1852, but only if such descendant:

- A) 16 living in California;
- B) Is a member of the Indian community served by a local program of the service; and
- C) Is regarded as an Indian by the community in which such descendant lives.

In order to properly capture the information required by Congress, the Task Force members, the Area office, and I.H.S. Headquarters came up with the following hierarchy:

- 1) Assign the patient a Tribe of Membership code.
- 2) If the patient can not be assigned a membership code, then determine if code 740 best fits the patient.
- 3) If code 740 does not apply, then go to code 741.
- 4) If code 741 does not apply, then go to code 742.
- 5) If code 742 does not apply, then assign code 000.

The BIA was consulted to determine if the asset distribution list or the Indian allotment trust interest list could be duplicated for clinic distribution. The Area Office staff 8180 inquired about a BIA computer to I.H.S. computer data transfer. The BIA is just starting to computerize those lists. There is no way at this time for the BIA to read the lists to I.H.S. data processing computer to computer. Also, the BIA cannot release the entire lists of patients falling into codes 740 and 741 because they have patient confidential information on the lists. The BIA will respond to individuals or tribes inquiring about tribal members. Any patient who does not know or does not have documentation for being placed in code 740 or 741 can write their local BIA Office for documentation. The Sacramento BIA Office said that this documentation is free of charge and that they will be happy to do the research. Any patient that is in the process of obtaining such documentation can still be placed in code 742. When the patient returns with the BIA research document, a modification can be submitted. An alternative would be to place the patient in the 740 or 741 category provisionally. The records person at your facility then could keep a tickler file 80 that he/she can enquire about the results at the next visit. He/she can then make a modification form out if needed to reclassify the patient.

CODB 970 NON-INDIAN, MEMBER OF INDIAN HOUSEHOLD will be used as originally proposed.

CODE 997 INDIAN, NON TRIBAL MEMBER has been replaced by codes 740, 741, and 742. This code should not be used in California.

This has been an enlightening experience. I sincerely hope that we can work as effectively and closely in the next few years as we have for these codes.

Sincerely yours,



Director, IDS/California Area Office

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## Appendix 8

Health Care Choices **of** American Indians in California

## Health Care Choices of American Indians In California

The California Tribal Health Programs are interested in how you make choices for your health care. They are especially interested in how you use the tribal health care programs and other options available to you. The information you provide in this survey will help the California Tribal Programs and Indian Health Service make sure the health care you need is available to you.

Your name has been chosen randomly from a list of patients who have registered in the past at the tribal health clinic. Your name will not appear on the completed survey form, and your answers will be kept completely anonymous. This means that there will be no way to link your name with the answers you have given.

You may refuse to answer any portion or all of this survey if you wish. Your refusal or answers will in no way interfere with the health care you receive from the local Indian Tribal Program or any other benefit.

If you have questions about this survey you may contact one of the following individuals who helped design this survey:

Jim Crouch	916-929-9761
Carole Ervin	916-885-3757
Sandra Willburn	916-739-4114



## Health Care Choices of American Indian/Alaska Natives

H1. In general, how would you rate your own health? (Circle number)

- 1 Excellent**
- 2 Good**
- 3 Fair**
- 4 Poor**

H2. **During 1990**, did you have or were you treated for diabetes, high blood pressure, heart disease, asthma or chronic breathing problems? (Circle number)

- 1 Yes**
- 2 No**

H3. Were you pregnant at any time during 1990? (Circle number)

- 1 Yes**
- 2 No**

H4. How many times did you see a doctor or other health care provider during 1990?  
(Write in number)

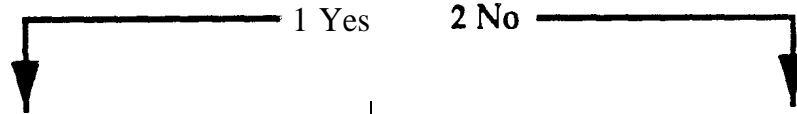
\_\_\_\_\_ **times**

H5. Did you receive a CHR (Community Health Representative) visit in 1990?

- 1 Yes**
- 2 No**

## 'USUAL SOURCE OF HEALTH CARE

U0. Is there a particular clinic, health center, doctor's office, or other place that you usually go to if you are sick or need advice about your health? (Circle number)



If you answered "YES" complete  
U1 through U8.

U1. What kind of place do you usually go to if you are sick or need advice about your health? (Circle number)

- 1 Tribal Health Program
  - 2 Doctor's office or group practice
  - 3 Neighborhood/community health center
  - 4 Hospital outpatient clinic
  - 5 Company industrial clinic
  - 6 Hospital emergency room
  - 7 Urgent care center
  - 8 County health clinic
  - 9 Other (specify)
- 

u2. How do you usually get there?

- 1 Walking
  - 2 Driving
  - 3 Being driven by friend or family
  - 4 Tribal Health Program transportation
  - 5 Taxi
  - 6 Other public transportation
  - 7 Doctor usually comes to home
  - 8 Other (specify)
- 
- 9 Don't know

u3. About how many miles is it to this place?

\_\_\_\_\_miles

If you answered "NO" complete  
N1 through N8.

N1. If you were sick and needed medical care, but not in an emergency, what kind of place would you be most likely to go to? (Circle number)

- 1 Tribal Health Program
  - 2 Doctor's office or group practice
  - 3 Neighborhood/community health center
  - 4 Hospital outpatient clinic
  - 5 Company industrial clinic
  - 6 Hospital emergency room
  - 7 Urgent care center
  - 8 County health clinic
  - 9 Other (specify)
- 

N2. How would you most likely get there?

- 1 Walking
  - 2 Driving
  - 3 Being driven by friend or family
  - 4 Tribal Health Program transportation
  - 5 Taxi
  - 6 Other public transportation
  - 7 Doctor usually comes to home
  - 8 Other (specify)
- 
- 9 Don't know

N3. About how many miles is it to this place?

\_\_\_\_\_m i l e s

(Continue this column if you answered YES you have a USUAL source of health care.)

- U4. About how long does it usually take for you to get there?

Hours Minutes  
Don't know

- U5. How easy or difficult is it to arrange transportation for medical care? (Circle number)

1 Very easy  
2 Easy  
3 Neither easy or difficult  
4 Difficult  
5 Very difficult  
9 Don't know/no opinion

- U6. Once you arrive, about how long do you usually have to wait before seeing a medical person?

Hours      Minutes  
Don't know

- U7. Do you think the usual waiting time, after you arrive is: (Circle number)

1 About right  
2 **Too long**  
3 Much too long  
4 Don't know/no opinion

- U8. How easy or difficult is it to arrange for payment of this care? (Circle number)

1 Very easy  
2 **E a s y**  
3 Neither easy or difficult  
4 Difficult  
5 Very difficult  
9 Don't know/no opinion

(Continue this column if you answered NO you have NO USUAL source of health care.)

- N4. About how long would it usually take for you to get there?

\_\_\_\_\_ Hours \_\_\_\_\_ Minutes  
\_\_\_\_\_ Don't know

- N5. How easy or difficult would it be to arrange transportation for medical care? (Circle number)

1 Very easy  
2 Easy  
3 Neither easy or difficult  
4 Difficult  
5 Very difficult  
9 Don't know/no. opinion

- N6. Once you arrived, about how long do you think you would have to wait before seeing a medical person?

Hours      Minutes  
Don't know

- N7. Do you think the usual waiting time after you arrive would be: (Circle number)

1 About right  
2 **Too long**  
3 Much too long  
4 Don't know/no opinion

- N8. How easy or difficult would it be to arrange payment for this care? (Circle number)

**1** Very easy  
2 Easy  
3 Neither easy or difficult  
4 Difficult  
5 Very difficult  
9 Don't know/no opinion

## ALTERNATE SOURCE OF CARE

Suppose your usual source or first choice of care was no longer able to care for you. If you were sick and needed medical care, but not in an emergency, what kind of place would you be most likely to go?

A1. What kind of place would you go to for care?

- 1 Tribal Health Program
- 2 Doctor's office or group practice
- 3 Neighborhood/community health center
- 4 Hospital outpatient **clinic**
- 5 Company industrial clinic
- 6 Hospital emergency room
- 7 Urgent care center
- 8 County health clinic
- 9 Other (specify)\_\_\_\_\_
- 10 Don't know

AZ. How would you most likely get there?

- 1 **Walking**
- 2 Driving
- 3 Being driven by friend or family
- 4 Tribal health program transportation
- 5 Taxi
- 6 Other public transportation
- 7 Dr. usually comes to home
- 8 Other (specify)\_\_\_\_\_
- 9 Don't know

A3. About how many miles is it to this place?

\_\_\_\_\_miles      Don't know

A4. About how long would it usually take you to get there?

Ho u rs Minutes Don't know

A5. How easy or difficult would it be to arrange transportation for medical care?

- 1 Very easy
- 2 Easy
- 3 Neither easy or difficult
- 4 Difficult
- 5 Very difficult
- 9 Don't know/no opinion

A6. Once you arrived, about how long do you think you would usually have to wait to see a medical person?

\_\_\_\_\_ Hours \_\_\_\_\_ Minutes  
\_\_\_\_\_ Don't **know**

A6. Do you think the usual waiting time would be: (Circle number)

- 1 About right
- 2 **Too long**
- 3 Much too long
- 4 Don't know/no opinion

A7. How easy or difficult would it be to arrange payment for this care?  
(Circle number)

- 1 Very easy
- 2 Easy
- 3 Neither easy or difficult
- 4 Difficult
- 5 Very difficult
- 9 Don't know/no opinion

## FINANCIAL COVERAGE OPTIONS

F1. Do you have any of the following payment sources for health care?

Circle answer.

Medi-Cal	Yes	<b>N O</b>
Medicare	Yes	No
County Medical Indigent Program	Yes	No
Veterans Health Benefits	Yes	No
Private health insurance	Yes	No
Other (specify) _____	Yes	No

F2. During 1990 did you use any of the following to pay for medical care?

Circle answer

Medi-Cal	Yes	No.
Medicare	Yes	No
County Medical Indigent Program	Yes	No
Veterans Health Benefits	Yes	No
Private <b>health</b> insurance	Yes	No
Other (specify) _____	Yes	No

F3. If you applied would you be eligible for any of the following health payment sources?

Circle answer

Medi-Cal	Yes	No
Medicare	Yes	No
County Medical Indigent Program	Yes	N o
Veterans Health Benefits	Yes	No .
Private <b>health</b> insurance	Yes	No
Other (specify> _____	Yes.	No

F4. In 1990, approximately how much of your own money did you pay for your own health care including medications, lab, x-ray, and hospitalizations?

\$ \_\_\_\_\_

## HEALTH CARE CHOICES

How important are the following when choosing a place to go for your medical care?  
(Circle answer)

	<u>How Important?</u>			
C1. Clinic is easy to get to	Very	Somewhat	Not at all	No opinion
c2. Waiting time is short	Very	Somewhat	Not at all	No opinion
c3. Easy to pay for	Very	Somewhat	Not at all	No opinion
C4. Clinic has a pharmacy	Very	Somewhat	Not at all	No opinion
c5. Clinic has lab and x-ray	Very	Somewhat	Not at all	No opinion
C6. Clinic provides dental care	Very	Somewhat	Not at all	No opinion
c7. Staff makes house calls	Very	Somewhat	Not at all	No opinion
C8. Staff provides hospital care nearby	Very	Somewhat	Not at all	No opinion
C9. Staff understands American Indian ways	Very	Somewhat	Not at all	No opinion
C10. Staff treats me with respect and kindness	Very	Somewhat	Not at all	No opinion
C11. Clinic helps me obtain other services	Very	Somewhat	Not at all	No opinion

The two most important features from this list are: (write in the number)

\_\_\_\_\_

\_\_\_\_\_

## BARRIERS TO CARE

This page contains a list of different health care services. For each one, please indicate if it is a service that you needed during 1990 but did not receive for some reason.

During 1990, did you need but not get. ..

Circle answer

- |  |            |           |          |
|--|------------|-----------|----------|
| B1. Emergency medical care?  | <b>Yes</b> | <b>No</b> |          |
| B2. A hospital stay?   | <b>Yes</b> | No        |          |
| B3. An operation?  | Yes        | <b>No</b> |          |
| B4. Services at home, such as a visiting nurse, doctor, or therapist?                                    | Yes        | <b>No</b> |          |
| B5. Mental health services or psychiatric counseling?  | Yes        | <b>No</b> |          |
| B6. Alcohol or drug treatment and counseling?  | Yes        | N o       |          |
| B7. Dental care?   | Yes        | <b>No</b> |          |
| B8. Pregnancy care?  | Yes        | <b>N</b>  | <b>o</b> |
| B9. Prescribed medicines?  | Yes        | No        |          |
| B10. Other medical items, such as eyeglasses, diabetic supplies or orthopedic items?                     | Yes        | No        |          |
| B11. Why did you not receive the service? (Please specify service and reason the care was not received.) |            |           |          |



## DEMOGRAPHICS

D1. What year were you born?

**19** \_\_ or **18** \_\_

D2. What is your sex? (Circle number)

**1** Male

**2** Female

D3. What is the highest grade or years of regular school that you attended?

D4. How many children under the age of 16 are in your household?

D5. How many people are in your household?

D6. What is your approximate household income for 1990? (Circle number)

**1** Less than \$6,000

**2** Between \$6,000 and \$12,000

**3** Between \$12,000 and \$18,000

**4** Between \$18,000 and \$24,000

**5** Between \$24,000 and \$30,000

**6** Greater than \$30,000

Circle answer

D7. Do you live on or hold an interest in trust land or Indian allotments?

Yes      N o

D8. Did you receive money from the distribution of California Indian Judgment monies in 1974?

Yes      No

D9. Are you a descendent of a California Indian who was alive in 1852?

Yes      No

D10. Are you currently enrolled in a Federally recognized Tribe?

Yes      No

D11. Are you currently seeking enrollment in a Federally recognized Tribe?

Yes      No

Thank you for completing this survey? Please mail in the addressed envelope.

Appendix 9

Letter to T.J. Harwood, Director,  
California Area Indian Health Service,  
from Leah Exendine, Chairman, California Tribal Health Council

Received April 4, 1991'



# CALIFORNIA TRIBAL HEALTH COUNCIL

Post Office Drawer K  
Susanville, California 96130  
(916) 257-2542

APR 4 1991

Leah Exendine  
Susanville Rancheria

Thomas J Harwood

Director=

Barbara Murphy  
Redding Rancheria

California Area/IHS  
1825 Bell Street, Suite 200  
Sacramento, CA 95825

Virgil Moorehead  
Big Lagoon Rancheria

Dear Mr. Harwood:

Dennis Hendricks  
Tuolumne Rancheria

Richard Steward  
Sulphur Bank Rancheria

Joe Saulque  
Benton Reservation

Rose Hatfield  
La Jolla Reservation

Anthony Leger  
Santa Rosa Reservation

Frances Shaw  
Manzanita Reservation

In order to fulfill a Congressional mandate regarding a health services access and availability of alternate resources profile of Federally non-recognized Indians of California, the CTHC endorse the plan in which IHS, the California Department of Health Service/Indian Health Program and the tribal health programs would cooperate in a joint effort.

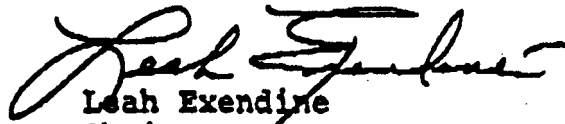
P.L. 100-713 (Section 709) requires IHS "with the assistance of tribal health programs providing services to Indians who are not members of any tribe recognized by the Federal Government" to describe several things about this group of Indians. The group of American Indians (AI) is described in Section 709, P. L. 100-713. For the purpose of this project this group is called the non Federally recognized Indian of California. Things to be described include the health status of these AS and their access to health care. We understand that the health status question is being addressed by researchers at UC-San Francisco and UC-Berkeley (on contract with IHS). We want to assure that the report contains accurate and up to date information about accessibility and availability of health care resources to the non Federally recognized Indian of California. We feel that this information should be incorporated in the final report. It is necessary that the California Tribal Health Council (CTHC) and the tribal health programs have the appropriate technical assistance of the Indian Health Service in this activity.

Mr. James Crouch, Executive Director, California Rural Indian Health Board (CRIHB) has indicated that they will be coordinating the survey process for certain tribal health programs that have accepted the CRIHB proposal. The remaining California Tribal health programs will have their surveys coordinated by the Department of Health Services/Indian Health Program with technical assistance from the California Area/IHS.

We understand that the information/data derived from the health access survey will become part of the Congressionally required report stemming from the California Eligibility study (-section 709) of the Indian Health Care Improvement Amendments. The information will only be used in the assessment of the actual availability and accessibility of alternate resources for the health care of such Indians that such Indians would have to rely on if the IHS did not provide for the health care of such Indians .

The California Tribal Health Programs will be gathering this information and will incur overhead costs. The CTHC would like to see that a nominal sum be allocated to the clinics to support the cost incurred in conducting survey business.

Sincerely yours,

  
Leah Exendine  
Chairman